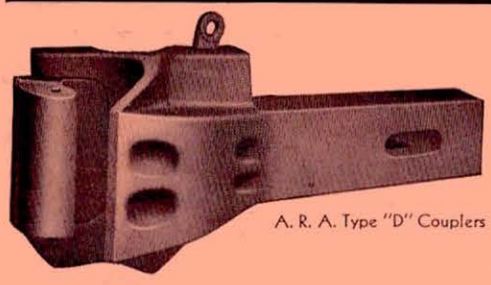
BEAVER FALLS, PA.

NOVEMBER 14, 1931

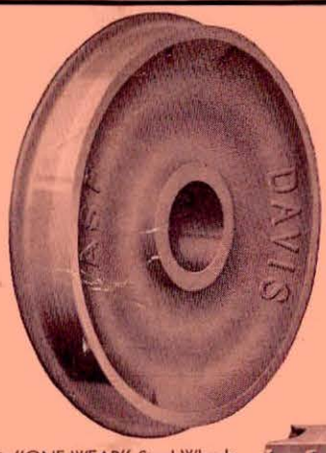
Railway Age

FOUNDED IN 1856

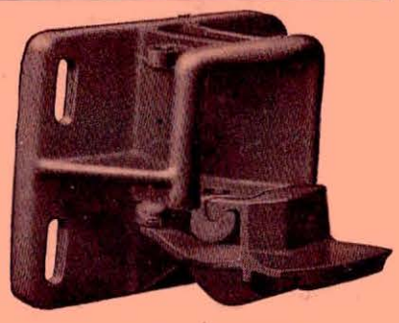
RAILWAY SPECIALTIES — STEEL CASTINGS



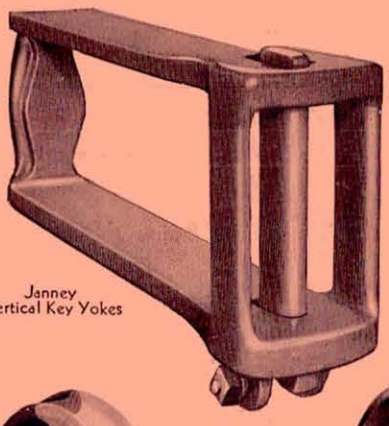
A. R. A. Type "D" Couplers



Davis "ONE-WEAR" Steel Wheels



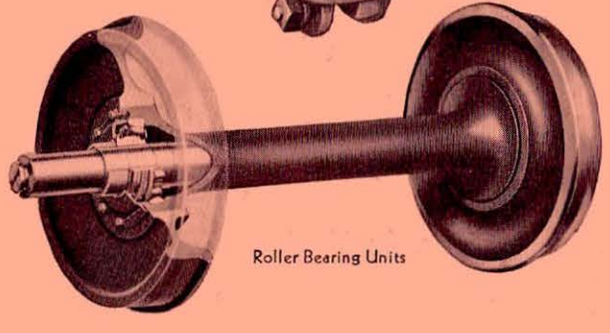
Simplex Adjustable and Reversible Coupler Pockets



Janney Vertical Key Yokes

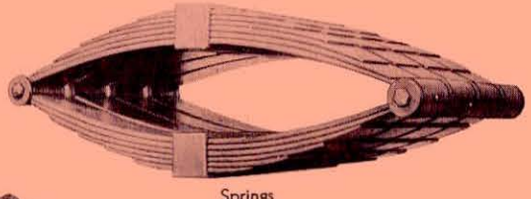
Cast Steel Truck Bolsters

Ajax and Hercules Brake Beams

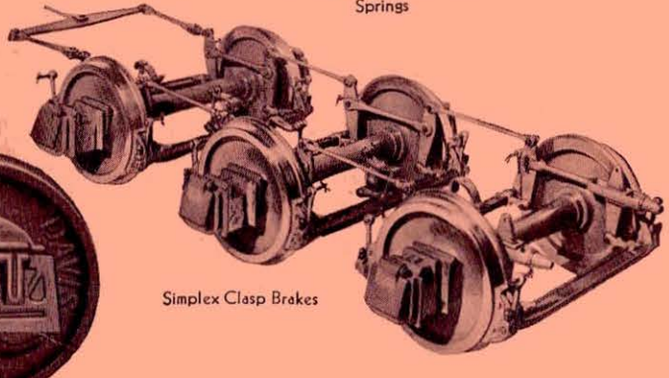


Roller Bearing Units

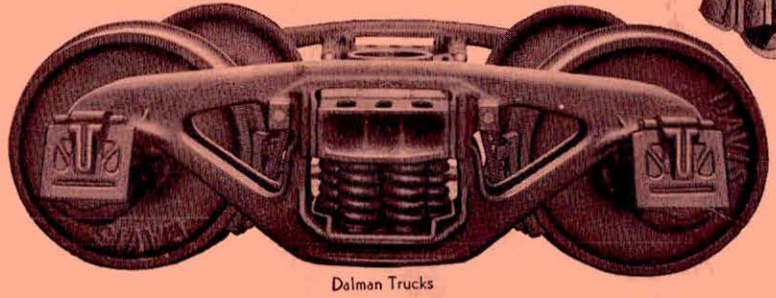
ASF



Springs



Simplex Clasp Brakes



Dalman Trucks

AMERICAN STEEL FOUNDRIES

NEW YORK CHICAGO ST. LOUIS

The Sperry Detector Car *is equipped with* 25 Timken Bearings

The Sperry Detector Car is a scientific apparatus designed to locate rail defects—principally fissures—quickly and economically.

It is a self-propelled gas-electric unit, built by the J. G. Brill Company, Philadelphia, and is equipped with Timken Bearings in the axle boxes, on the pinion shafts, and primary and auxiliary transmission shafts—25 bearings in all.

While the number of these cars in service is limited, due to their highly specialized use, they afford interesting evidence of the wide sweep of Timken Tapered Roller Bearings throughout the railroad field.

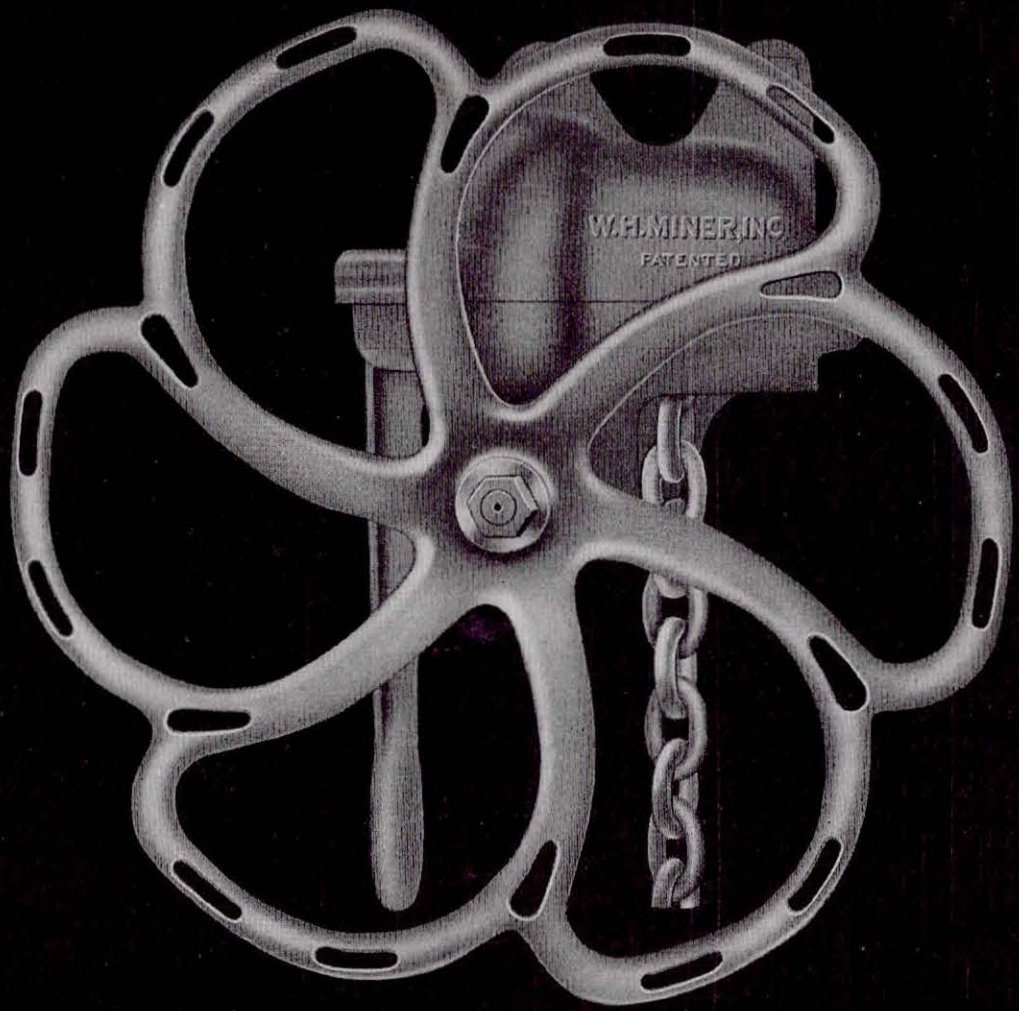
THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN
Tapered
ROLLER BEARINGS

Published weekly by Simmons-Boardman Publishing Company, 34 North Crystal Street, East Stroudsburg, Pa Entered as second class matter, March 9, 1928, at the Post Office at East Stroudsburg, Pa., under the act of March 3, 1879.
Address communications to 30 Church St., New York City.

MINER

POWER HAND BRAKE



Embodies Highest Standards of Safety, Power and Efficiency

W. H. MINER, INC. CHICAGO

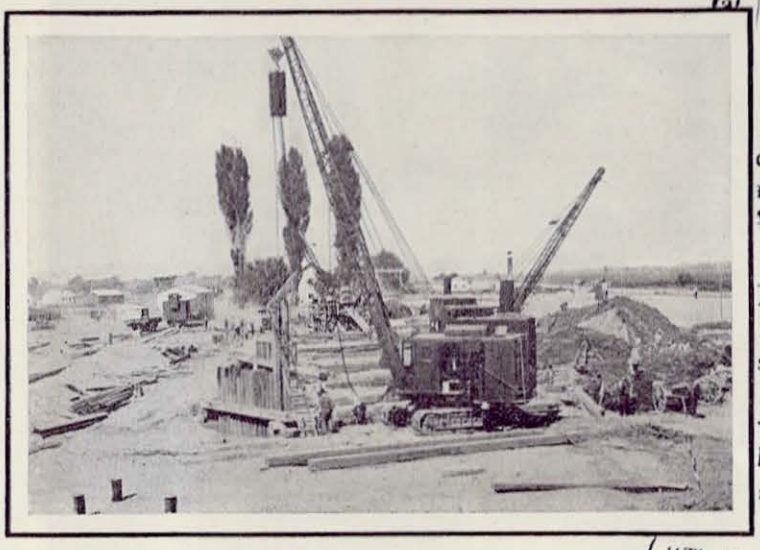
4 on Greek Reclamation Work for The Foundation Company

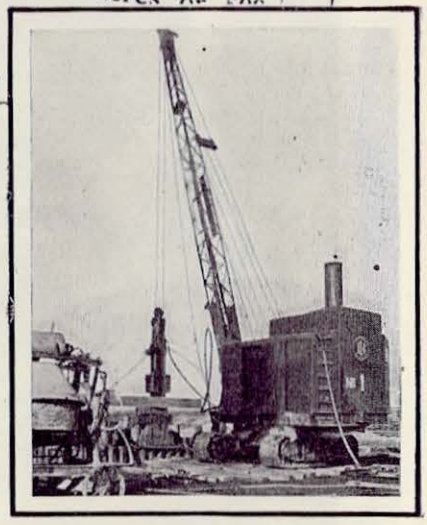
Salonika Plains Reclamation

The work entrusted to The Foundation Company, New York, by the Greek Government for the reclamation of the vast area known as the Salonika Plain consists of the design and construction of flood protection works, regulation of rivers, drainage and irrigation works and reclamation of Lakes Ardzan, Amatova and Yenitza within the area west of the town of Salonika defined by the 50-meter contour lines, and traversed by the Rivers Galikos, Axios, Loudias and Aliakmon.

The total area of this plain is some 00 square miles, or 512,000 acres. Of is area, when the works now in progss are completed, 178,000 acres will reclaimed, and an additional 148,000 es protected from periodical floods, king a total 326,000 acres are miles.

Reprinted from "The Near East and India"





Reclaiming 178,000 acres of swamp land in the Salonika Plain is the gigantic task which has been entrusted to The Foundation Company by the Greek Government. This project, involving an expenditure of many millions, will require several years to complete and includes changing the courses of two rivers, the reclamation of three lakes and extensive flood protection and irrigation work.

Obviously, the choice of dependable equipment is essential to The Foundation Company on this far-away job. But it is just as true that the daily performance of your cranes right around town means the difference between profit and loss on a contract. That is why the country's leading engineers and contractors rely on Industrial Brownhoist crawler and locomotive cranes to do their work.

The two views above show Industrial Brownhoist steam crawler cranes driving piles on the plains of Salonika. These cranes, equipped with extra large boilers, are part of a fleet of ten Industrial Brownhoists purchased by The Foundation Company.

Industrial Brownhoist Corporation, General Offices, Cleveland, Ohio

District Offices: New York, Philadelphia, Pittsburgh, Detroit, Chicago, New Orleans, San Francisco, Cleveland.

INDUSTRIAL BROWNHOIST

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Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name Registered U. S. Patent Office

Vol. 91 November 14, 1931 No. 20

In This Issue

Modern Highway Crossing Protection Reduces Operating Costs ..... Page 737

Article No. 19 of the Operating Economy Series, showing how automatic or part-time manual control can be used to replace watchmen and gatemen, with savings, in at least one case, of $200,000 annually.

Railway Business Association Met in Chicago 743

A report of the annual meeting of the R. B. A., at which resolutions were adopted expressing confidence in the future because of railway unity and the constructive suggestions of the I. C. C.—Abstracts of addresses by Frank W. Noxon, Paul Shoup, Samuel O. Dunn and Thomas F. Woodlock.

Old Trails Now Steel Rails 749

The opening of the joint Great Northern-Western Pacific line from Klamath Falls, Ore., to Keddie, Cal., 203 miles, marks the completion of the year's largest new line construction project.

EDITORIALS

Will Wages Be Reduced by Agreement? 733
Improvement in Business 734
Socialism for Purposes of Comparison 735
Why Shippers Use Trucks 736

GENERAL ARTICLES

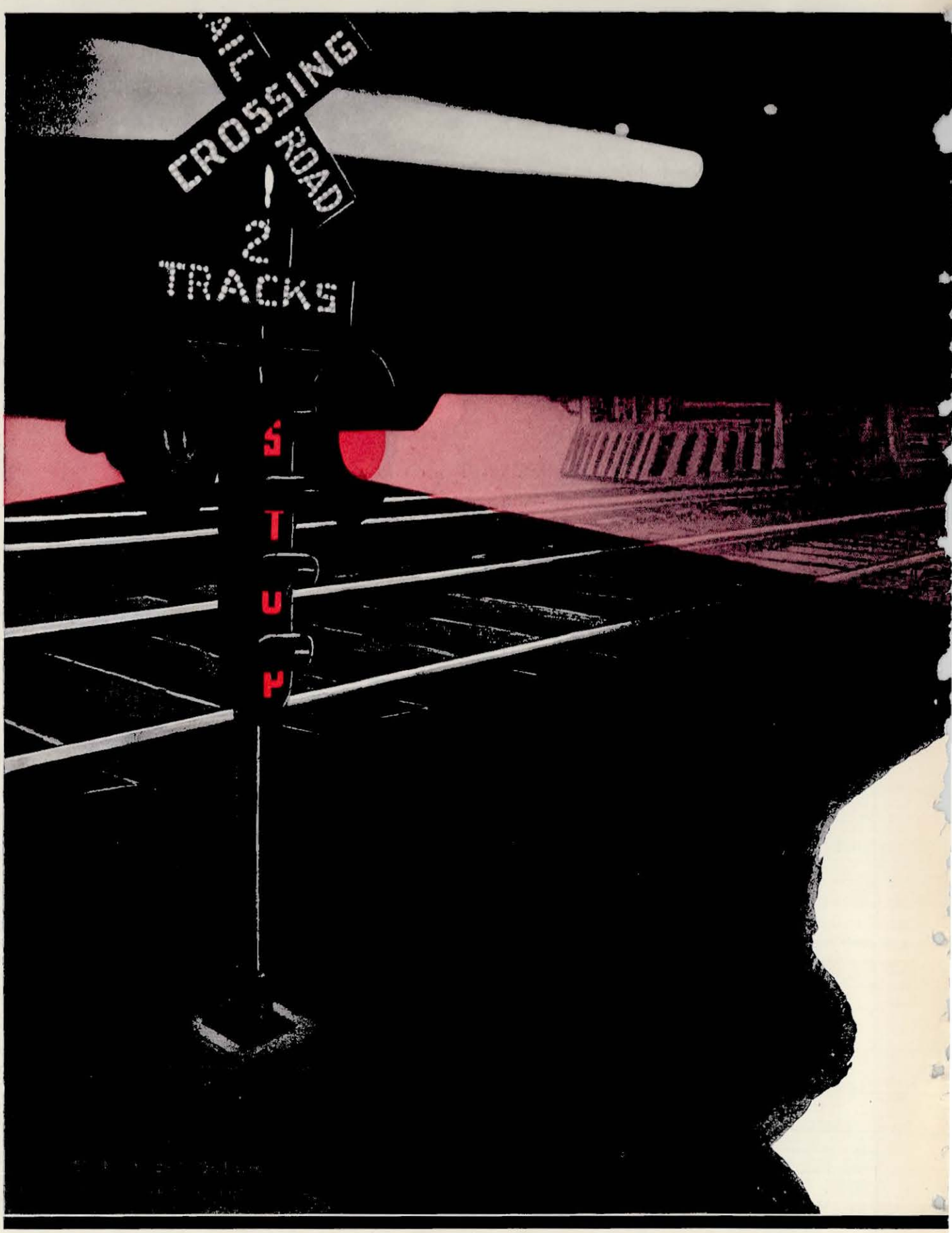
Modern Highway Crossing Protection Reduces Operating Costs 737
Calumet Sag Waterway Opposed 740
Railway Business Association Met in Chicago 743
Old Trails Now Steel Rails 749
Small Sand Plant Provides Complete Handling 750
P. E. Crowley Resigns New York Central Presidency 751
Cincinnati Terminal Service Hearing Concluded 752
Freight Car Loading 754
New Haven's Co-ordinated Transport Proves Efficient, by John J. Pelley 755
Traffic Clubs Meet at Tulsa 756
Eastman Favors Public Ownership, But Not Just Yet 758

COMMUNICATIONS 759

ODDS AND ENDS 760

NEWS 761

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service


RAIL ROAD
CROSSING
2
TRACKS
STOP

WARNINGS *that are heeded-*

¶ Decreases in highway crossing accidents, because of the installation of flashing light warning signals, are being reported from many sources throughout the country. Substantial operating savings have been effected by the installation of these signals, such annual savings ranging from 15 per cent to more than 100 per cent on the investment. Additional savings are reflected in the amounts expended to settle accident claims.

¶ You, too, can effect such economies on your road by installing the "Union" Style HC-8 Highway Crossing Signal. It is effective day and night. It says in a language everyone can understand: "A train is coming". And ITS WARNINGS ARE HEEDED.

¶ These signals are provided with backlights which enable the highway users to observe the indication displayed by the signal on the far side of the track should the Indication of the near signal be obscured or passed. Auxiliary STOP , STOP ON RED SIGNAL , and other similar units may be provided for mounting on the pole. Front and back indications are obtained from one lamp. Vertical and horizontal adjustments are easily made.

¶ To secure maximum safety at minimum cost on your road, specify "Union" HC-8 Highway Crossing Signals. » » »

1881 TRADE MARK **Union Switch & Signal Co.** TRADE MARK 1931

SWISSVALE, PA.

GOOD, DEPENDABLE WHEELS *for fast-freight service*

Due to the growing tendency to speed up the handling of freight, faster freight trains are becoming, not the exception, but the rule. As a result, greater and greater burdens are placed on the wheels.

Small wonder that railroad executives everywhere are more and more laying stress on the importance of good, dependable car wheels!

Bethlehem Light Weight Wrought Steel Wheels meet all the requirements of today's fast-freight service. They are strong, safe, and durable, and are produced for all types of freight cars, up to and including those of 70 tons carrying capacity. They are made by the same process as multiple-wear Bethlehem Wheels but have smaller hubs, and lighter plates and rims than the corresponding wheels of the multiple-wear type.

The long, satisfactory service that they give and their economy and safety, make Bethlehem Light Weight Wrought Steel Wheels the logical wheels for modern fast-freight service. We invite you to make a thorough investigation of their many advantages.

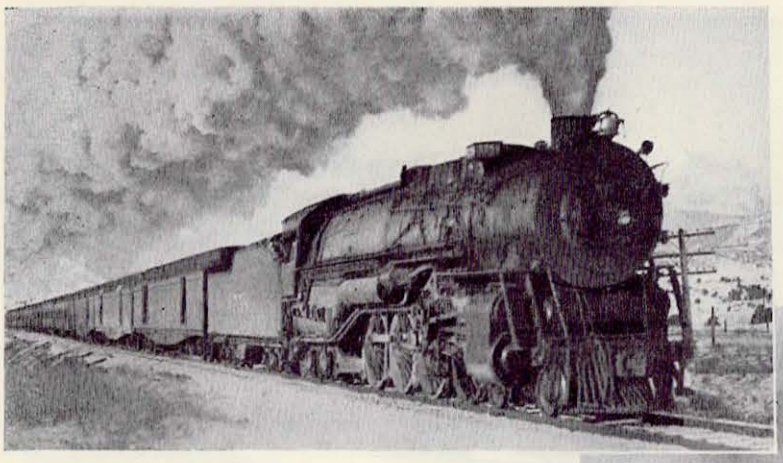
BETHLEHEM STEEL COMPANY
General Offices: Bethlehem, Pa.

District Offices: New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Buffalo, Pittsburgh, Cleveland, Cincinnati, Detroit, Chicago, St. Louis

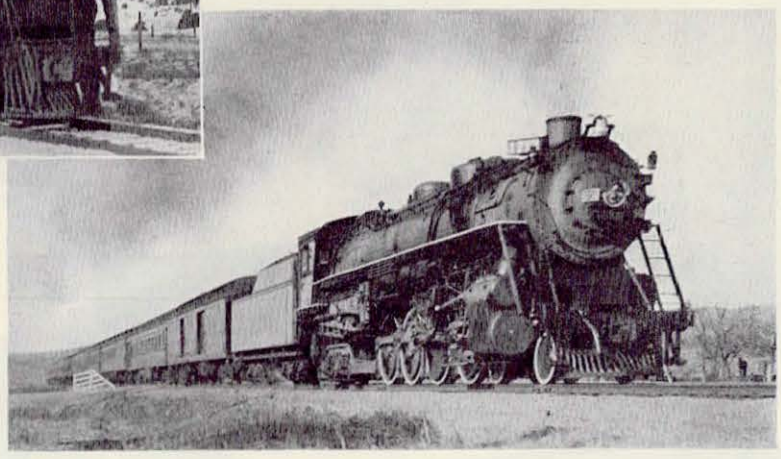
Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco, Los Angeles, Seattle, Portland, Honolulu.

Export Distributor: Bethlehem Steel Export Corporation, 25 Broadway, New York City

BETHLEHEM
Wrought Steel Wheels



On the Job



AT the present time, with comparatively light traffic, the Strictly Modern Locomotive, wherever introduced, is very much *on the job.*

The high-wheeled, big-boilered locomotives recently built for a number of railroads have conclusively demonstrated that they give greater efficiency with lower maintenance costs; and further that it would be poor economy to operate old power under present conditions.

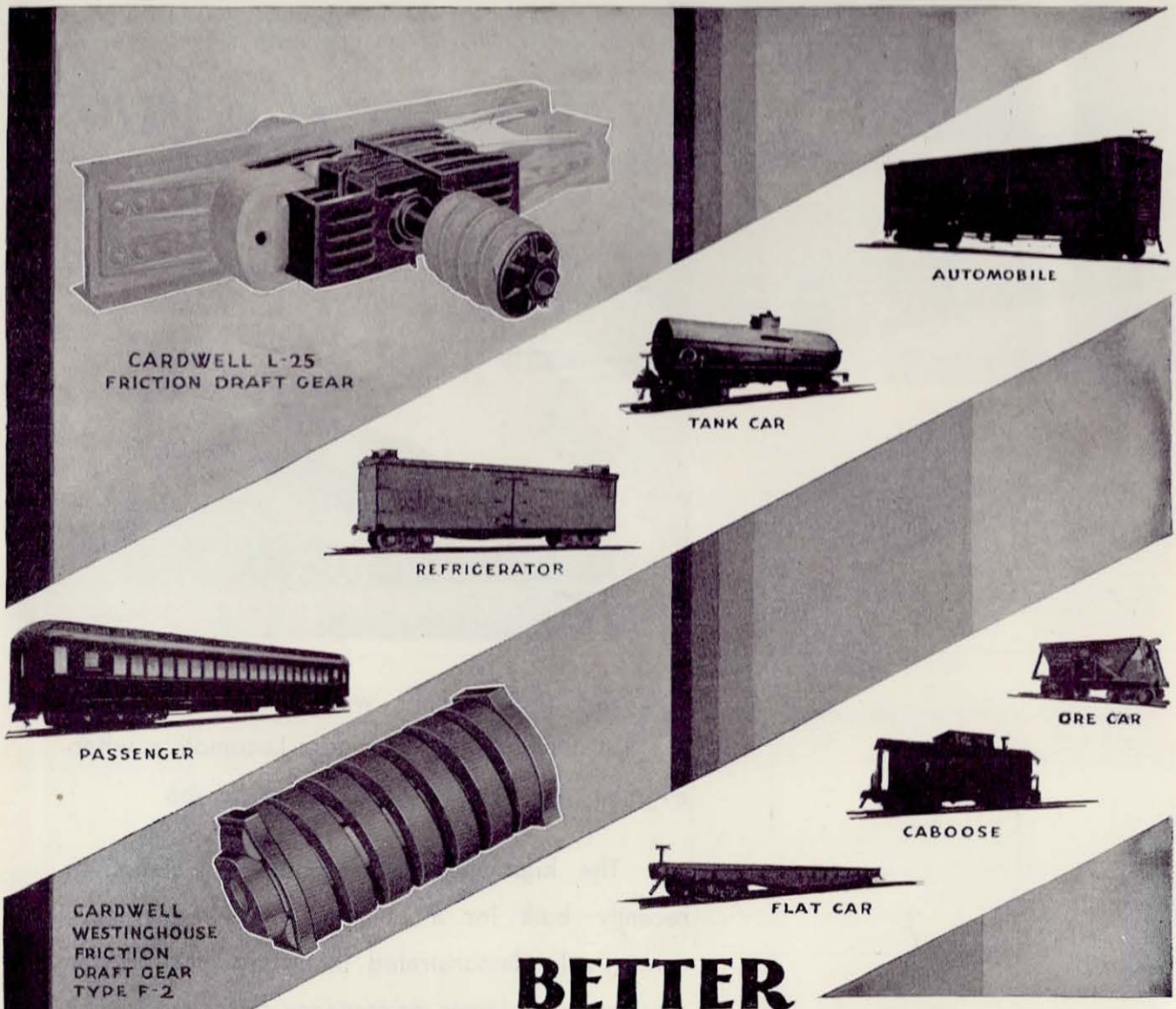
Now is the time to prepare for increased business by replacing the old locomotives with units of the most modern type, *because - - - -*

It takes Modern Locomotives to make money these days!

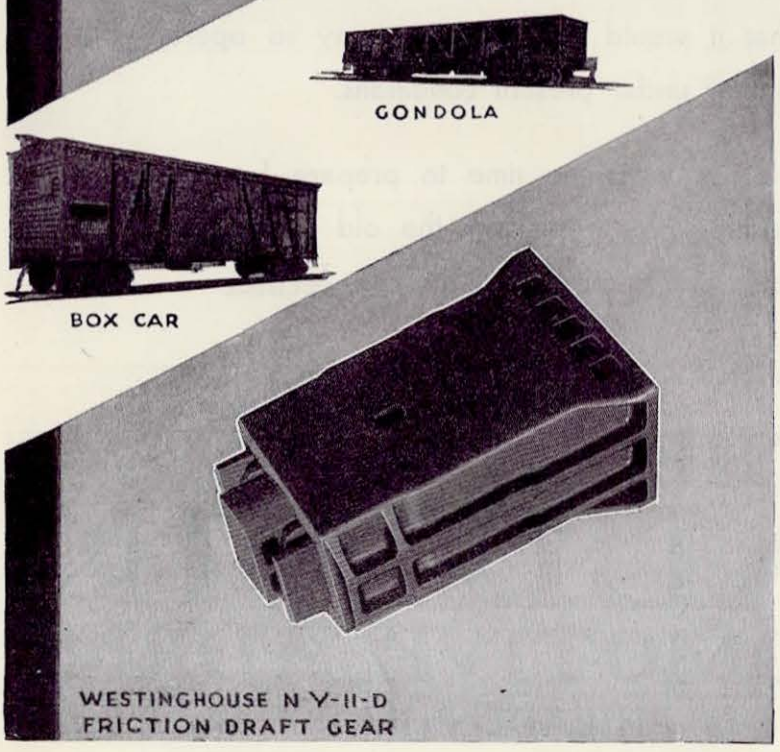
THE BALDWIN LOCOMOTIVE WORKS 1831 1931

THE BALDWIN LOCOMOTIVE WORKS

PHILADELPHIA



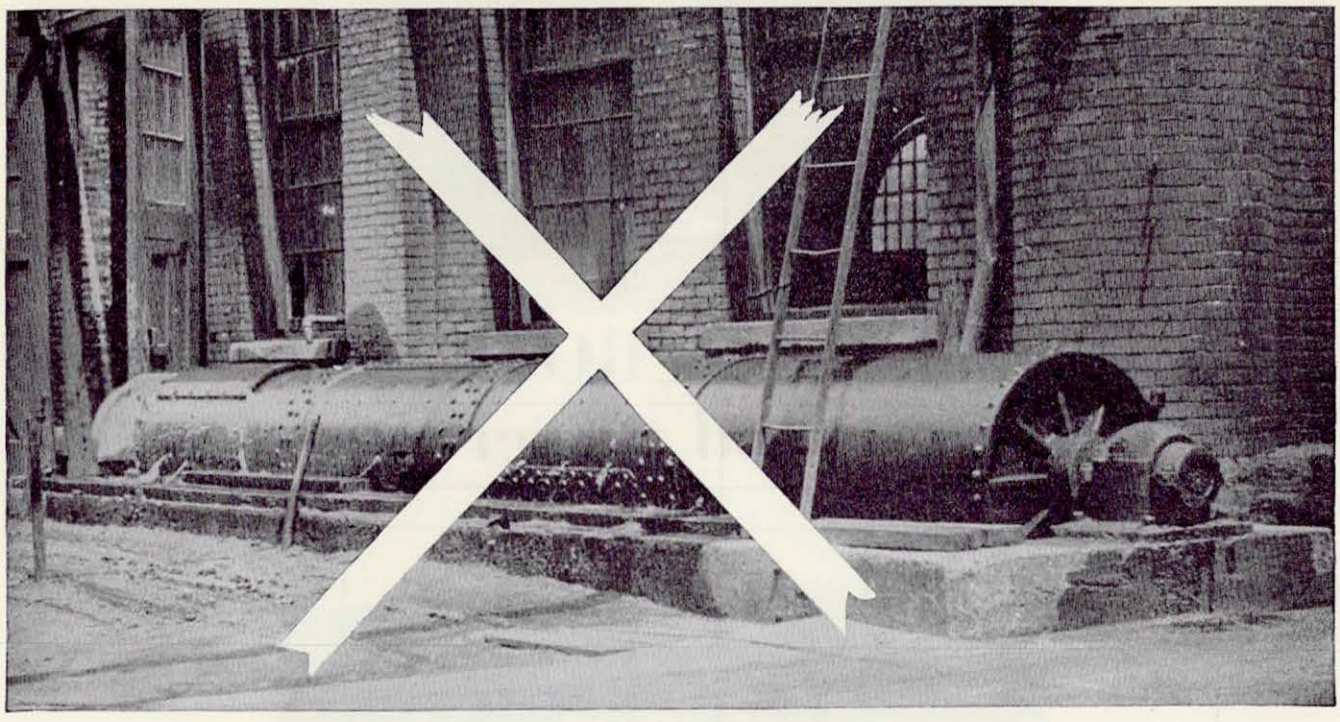
BETTER DRAFT GEAR PROTECTION *For Every Car*



INSURES reduced maintenance cost per car per year. Let us explain.

CARDWELL WESTINGHOUSE CO.
332 South Michigan Avenue
CHICAGO, ILL.

Scrap the "Rattler"!



Zeolite treatment keeps locomotive flues *permanently* scale-free

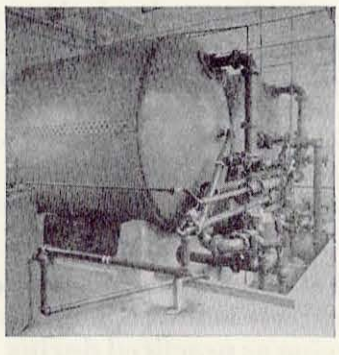
THE only reason there are rattlers in locomotive repair shops is because scale forms on boiler flues and has to be removed. As long as scale is allowed to form, the rattler will exist as a necessary evil.

But since scale can be *prevented,* the rattler should be scrapped. It is a relic of yesterday's railroading.

The most practical and economical way to get rid of scale is to soften feedwater by the Zeolite process, which is guaranteed to prevent the formation of scale, sludge or mud.

One large road, on an investment of $139,883, saved $391,500 annually by using Zeolite Equipment. And this figure is conservative, because it covers locomotive maintenance and repairs only—it does not include fuel savings, nor does it take account of the interrupted train service that is often caused by scaled-up flues.

It will pay you to look into this matter. Send for "Soft Water for Railroads," which describes actual operating results of Permutit Zeolite Water Softeners in railway service. No obligation.



A typical installation of Permutit Water Softening Equipment. Note the simplicity and small space occupied.

THE PERMUTIT COMPANY
440 FOURTH AVENUE, NEW YORK, N. Y.

Manufacturers of Industrial and Household Zeolite Water Softeners, Hot and Cold Lime Soda, Lime-Barium Water Softeners—Sand Filters—Iron, Oil and Manganese Removing Filters—Continuous Boiler Blowoff Equipment—Ranarex CO_2 Indicators and Recorders—Other Power Plant and Water Treating Specialties.

Permutit *Water Treating Equipment*

TWENTY-THREE SALES OFFICES THROUGHOUT THE UNITED STATES

RR-9

Consider these PROVEN FACTS about wood preservation—

Photo Courtesy
C. C. C. & St. L. R. R.

Service Records

Certain facts stand out clearly in regard to wood preserving as a result of service records carefully kept by American railways over a long period of years. No laboratory experiment, "accelerated" test, or "actual service" record of a scant few months or years can be seriously compared with the accumulated experience of decades.

One thing that the service records demonstrate conclusively is the economic value of wood preserving as practiced during the last quarter century. The decreasing rate of tie renewals far outweighs the cost of treating ties. Similar logic applies to piles, timber and poles.

Another conclusion to be drawn very clearly from the service records is that our treatment employing the Lowry Process stands unchallenged in leadership measured by results.

It cannot be mere chance that of the fourteen roads reporting lowest tie renewals all, except four which operate their own plants, have used ties treated by this company.

We would welcome an opportunity to discuss these service records with you. They have a bearing on your treated timber requirements.

AMERICAN CREOSOTING COMPANY
INCORPORATED

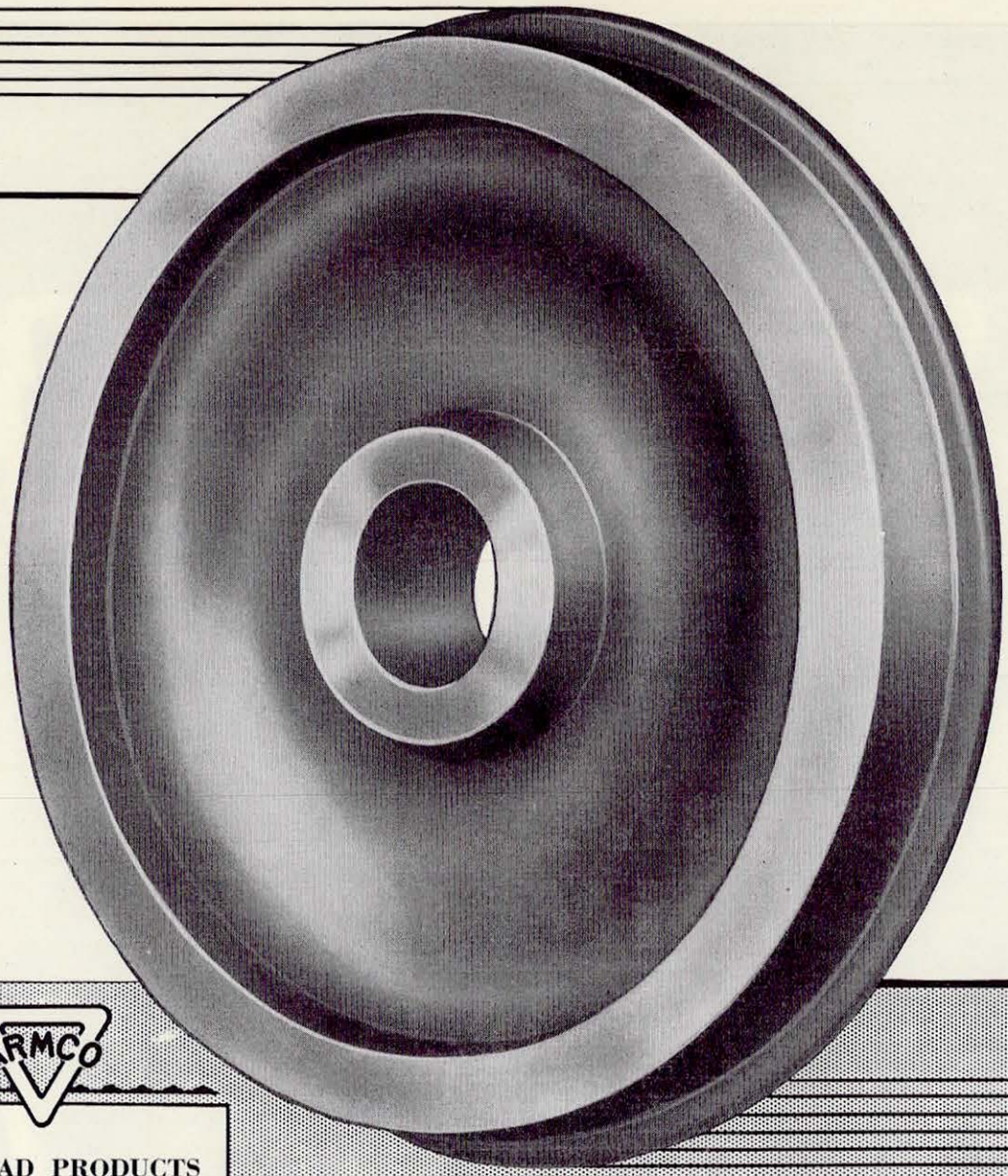
COLONIAL CREOSOTING COMPANY INCORPORATED

AMCRECO LOWRY PROCESS CREOSOTED WOOD

GEORGIA CREOSOTING COMPANY INCORPORATED

LOUISVILLE — KENTUCKY

RA 11-14 Gray



ARMCO

RAILROAD PRODUCTS

- Special Car Siding Sheets
- Locomotive Jacket Sheets
- Freight Car Sheets and Plates
- Passenger Car Sheets and Plates
- Galvanized Ingot Iron and Steel Sheets
- Hot Rolled Ingot Iron and Steel Sheets
- Wrought Steel Wheels

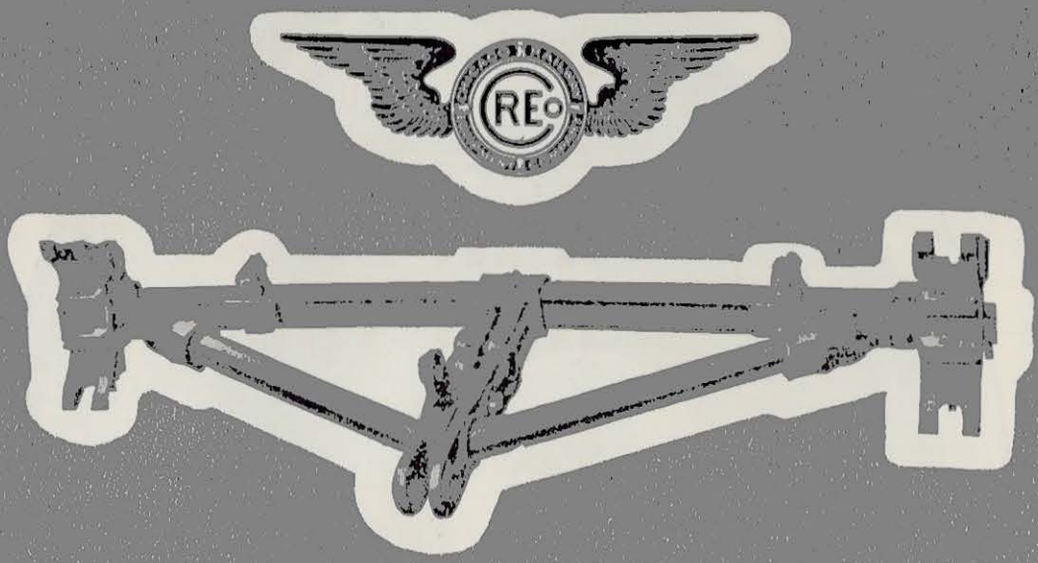
ARMCO WROUGHT STEEL WHEELS

Armco Railroad Sales Co.

Executive Offices, Middletown, Ohio

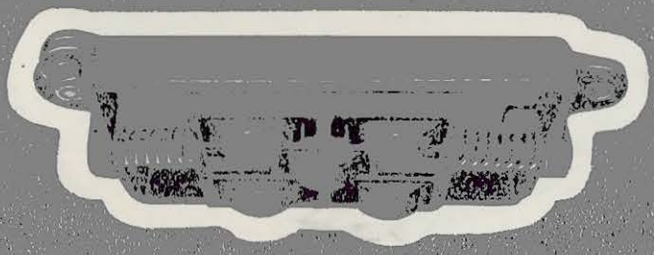
District Offices

Chicago — New York — Philadelphia — Cleveland — St. Louis



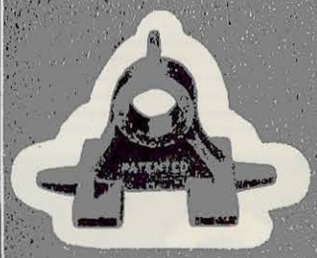
Brake Beams

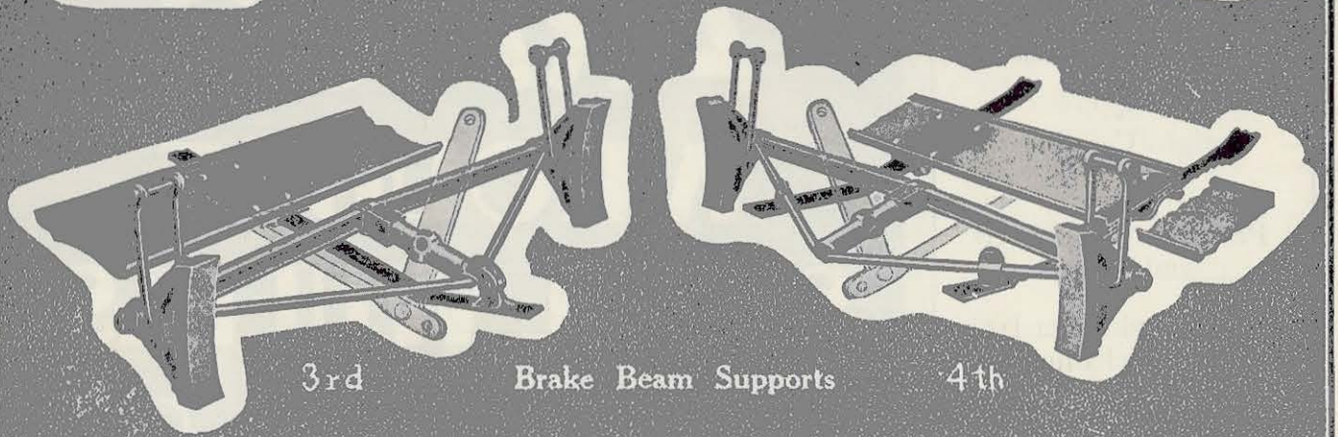
Creco



Side-Bearings

Products

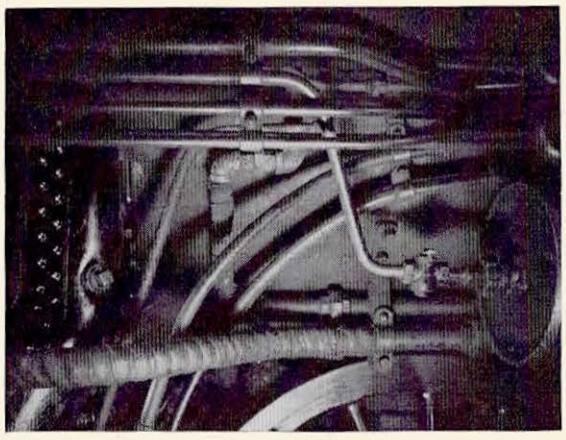


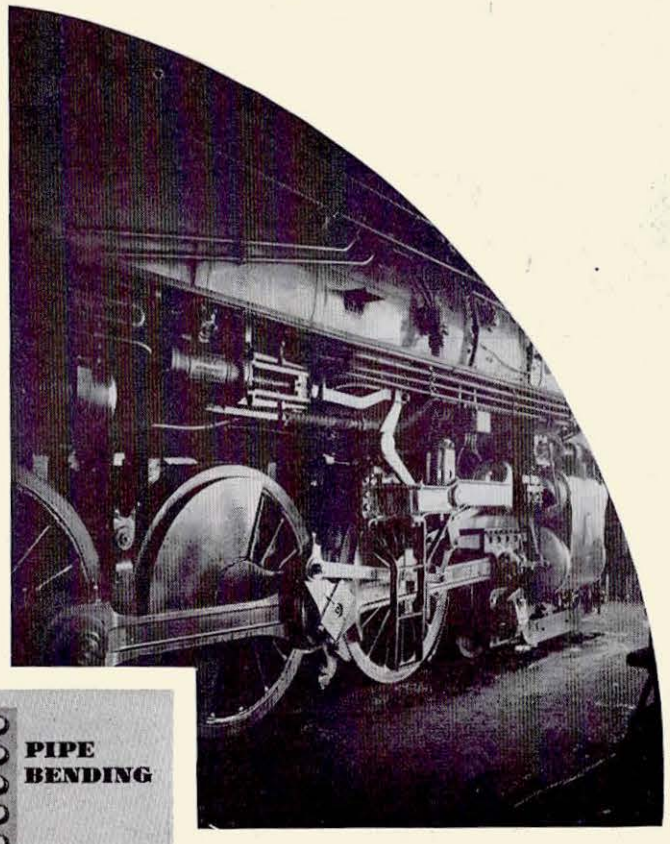


3rd Brake Beam Supports 4th

Chicago Railway Equipment Co.

Railroads know that there was never before a Bending Pipe like this!



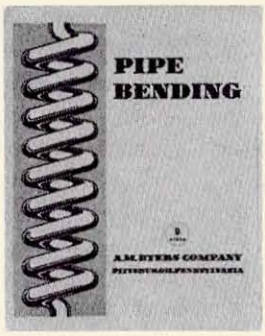


BYERS has achieved a great feat in providing its latest, new development in wrought iron—Byers Bending Pipe.

Here is something different and unmistakably better—a new standard of wrought iron bending pipe—made possible only by Byers modern manufacturing methods which permit the closest control of the physical and chemical properties of wrought iron in every step of manufacture.

On cold bends, Byers extra heavy bending pipe can be bent to a center-to-center diameter as low as 3.3 times the outside diameter of the pipe. Naturally hot bends can be made to much smaller center-to-center diameters.

Write today for Pipe Bending Bulletin No. 50. Also ask for our new Pipe Threading Bulletin No. 52—the latest and most valuable book published on The Theory and Practice of Threading Byers Genuine Wrought Iron Pipe.



Write for Pipe Bending Bulletin No. 50. Explains a new development in wrought iron.

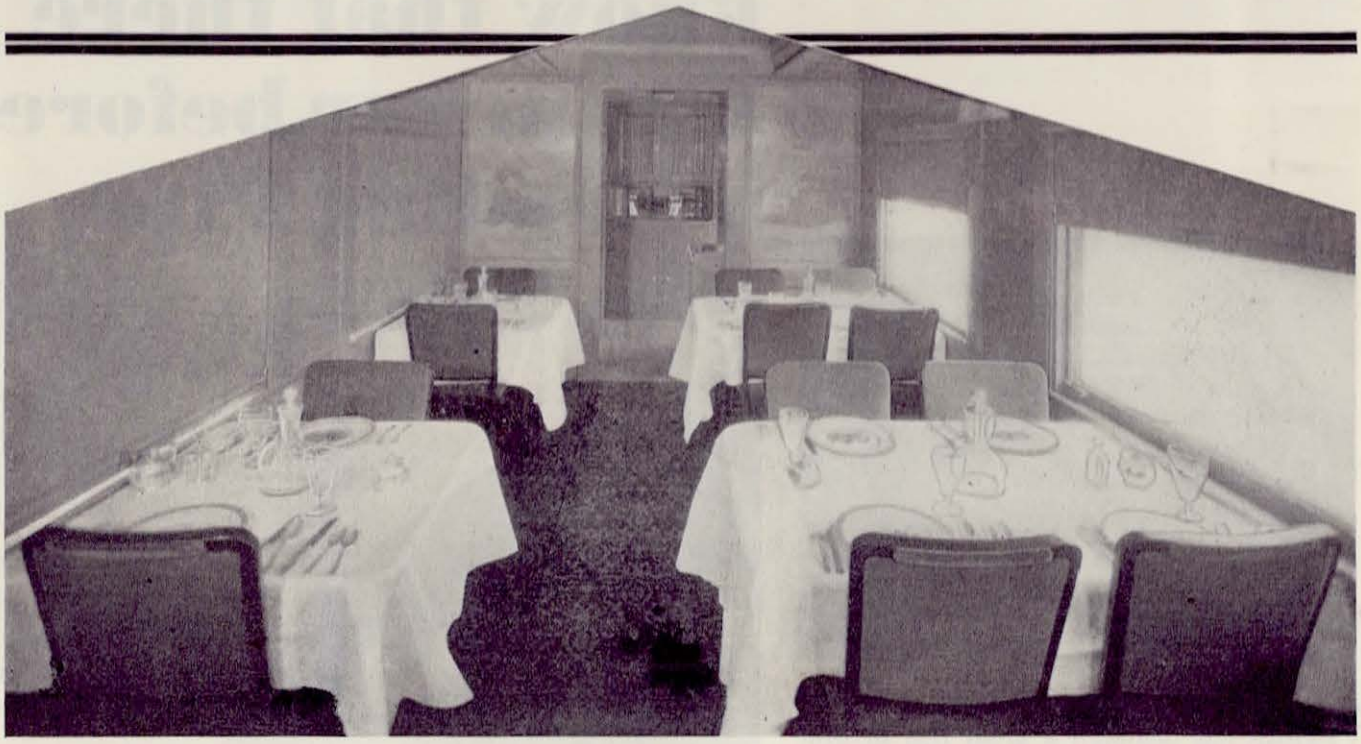
Standard of quality since 1864, Byers is now producing the best wrought iron in its history. Railroads know that for corrosion-resistance, vibration-fatigue resistance, *bendability* and *threadability*, Byers Pipe has no equal. A. M. Byers Company, Pittsburgh, Pa. Established, 1864.

BYERS · GENUINE · WROUGHT IRON BENDING · PIPE ·

AN INVESTMENT BYERS 1864 GENUINE WROUGHT IRON NOT AN OUTLAY

Missouri, Kansas, Texas Air-Cooled Diner Decorated by Mandel Brothers, Chicago

VELMO UPHOLSTERY ADDS



CHEER AND COMFORT TO DINER

The beautiful interiors of the M-K-T dining cars, electrically refrigerated for southern travel, are complemented by a neutral-tone VELMO frieze.

The decorative features of Chase VELMO upholstery fabrics have long since placed them foremost among railway furnishings . . . but here is a striking example of their use because the decorators recognized in VELMO a fabric that offered coolness, as well as cheer and comfort.

VELMO quality fabrics, because of their fine mohair fibre construction, allow free air circulation even when the surface is subjected to extreme pressure. It is this feature which adds yet another reason for the use of VELMO in the latest air-cooled M-K-T dining cars.

Smart appearance . . . great durability . . . and cleanliness . . . are a triad of other effective reasons why Chase VELMO is the logical upholstery fabric for railway transportation.

Write for samples of our new 1932 offerings . . . and take advantage of our free stylist service.

Made by
SANFORD MILLS
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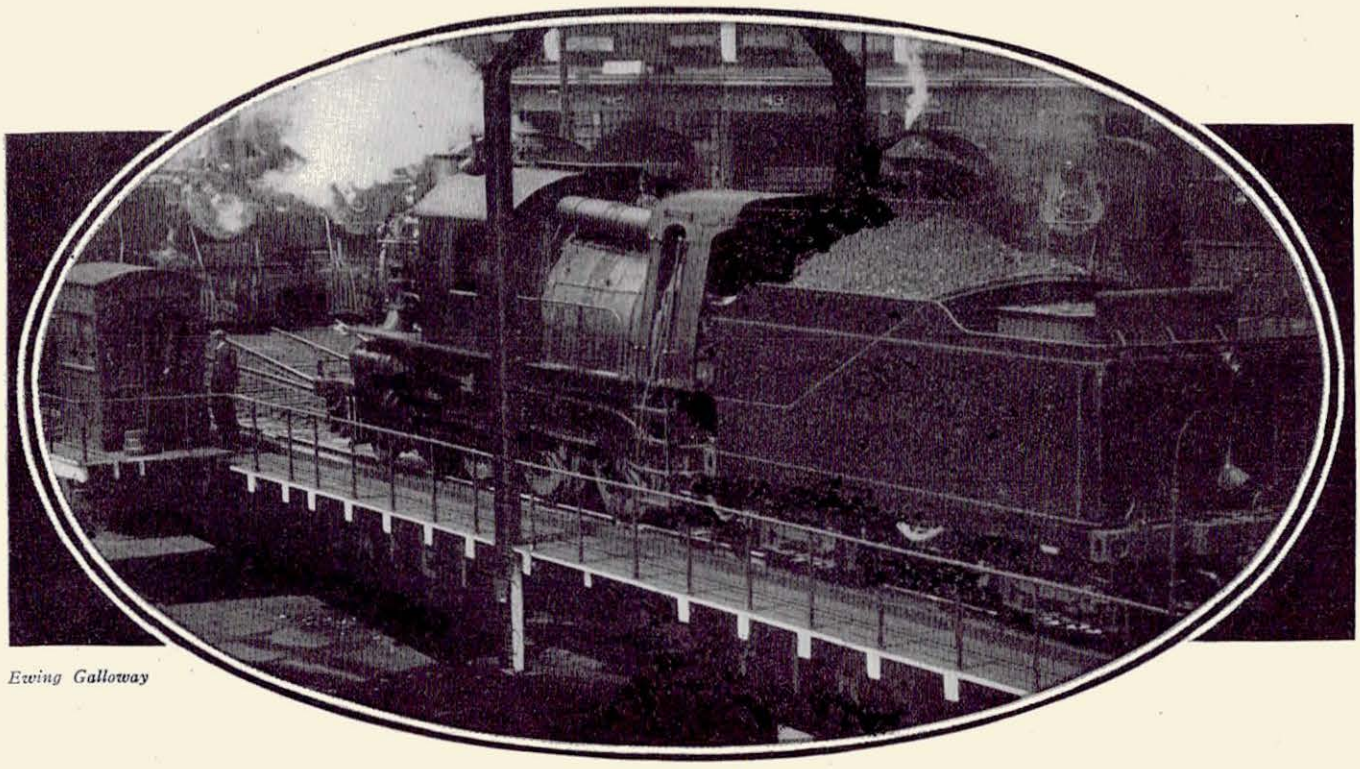


Ewing Galloway

READY FOR SERVICE

Tires
Rolled
Wheels
Steel Tired
Wheels
Forgings
Steel
Castings
Billets

EITHER returning to the round house after a hard run or just starting out, the locomotive equipped with ''Standard'' Forgings and "Standard" Q.T. wheels is ready for service. It is apt to spend fewer days in the repair shops and more days in service than it would otherwise. Specify "Standard" parts for the maximum relief from maintenance.

STANDARD STEEL WORKS COMPANY

GENERAL OFFICES & WORKS:
BURNHAM, PENNA.

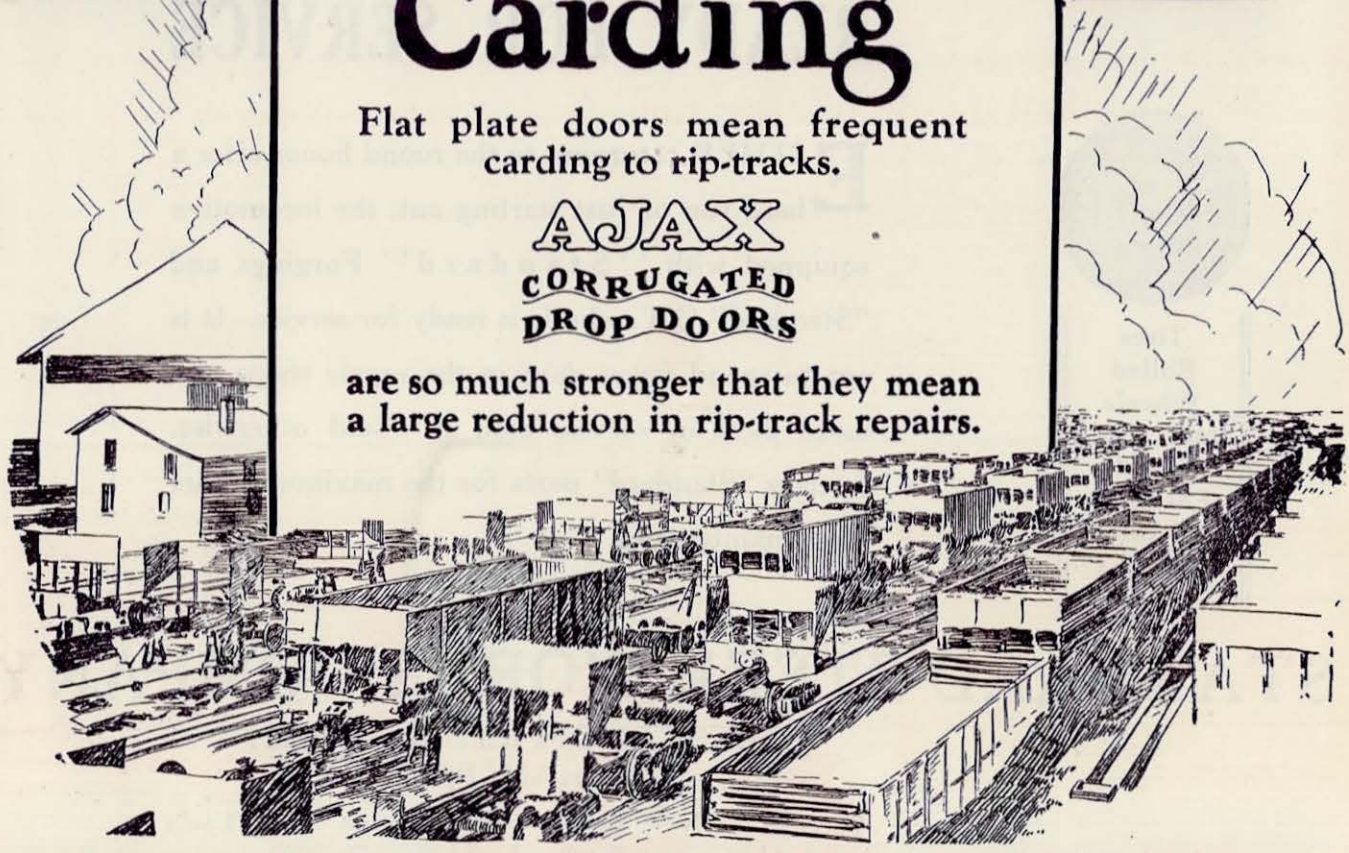
Chicago New York Philadelphia St. Louis
Akron Portland San Francisco

Expensive Carding

Flat plate doors mean frequent carding to rip-tracks.

AJAX
CORRUGATED
DROP DOORS

are so much stronger that they mean a large reduction in rip-track repairs.



UNION METAL PRODUCTS COMPANY

NEW YORK · CHICAGO · ST. LOUIS · WASHINGTON
RICHMOND · HOUSTON · SAN FRANCISCO · KANSAS CITY · MONTREAL

If Shovels Were Bought To Be Hung on Walls—

ECONOMY is not always, in fact very seldom, the lowest price—especially where labor is involved. If shovels were bought to be hung on walls, perhaps economy would be the lowest price. But where labor comes into the picture—and the job to do is the roughest of the rough—then the prime factor is the ability of the shovel to perform so that labor contributes the most for the money that is paid.

Economy is, in this case, not the price, but—what have you?

We propose to *have* for the railroads nothing but improved shovels and scoops. With all the facilities we have today for testing and improving, we certainly should be able to perform more meritorious service for the railroads. We should catch the wrinkles before they become troubles. We should anticipate railroad needs in better fashion than ever.

It is our ambition that we should be not only a source of supply, but a bureau of information—leading to greater shoveling economies and more returns for every dollar invested. As the advantages of our working facilities begin to appear, it would seem that this policy progresses.

Now—Our Idea Is This!

We aim to offer to railroads only those shovels that

—in the first place are strong enough to do the work;

—and in the second place are designed so as to do the work efficiently.

Track shovels have to be extraordinarily strong to stand the gaff of maintenance work, yet they have to be carefully designed for the greatest labor efficiency.

Locomotive scoops, perhaps, need not be quite so strong, but they must meet the requirements of fuel and labor conservation.

Different roads have different problems in shoveling.

We produce shovels to meet those requirements.

The beauty of the thing is that we need no defense to protect narrow limits of manufacturing. We need offer only the choice of the best for railroad needs. The soundness of our position is that we can offer three types to the roads, each the best of its class. There is that tough, hardy veteran—Genuine O. Ames. There is the famous Red Edge (than which there is no better)—the bellwether of shovel economy in railroading. Then again there is that fine solid shank shovel, the Husky.

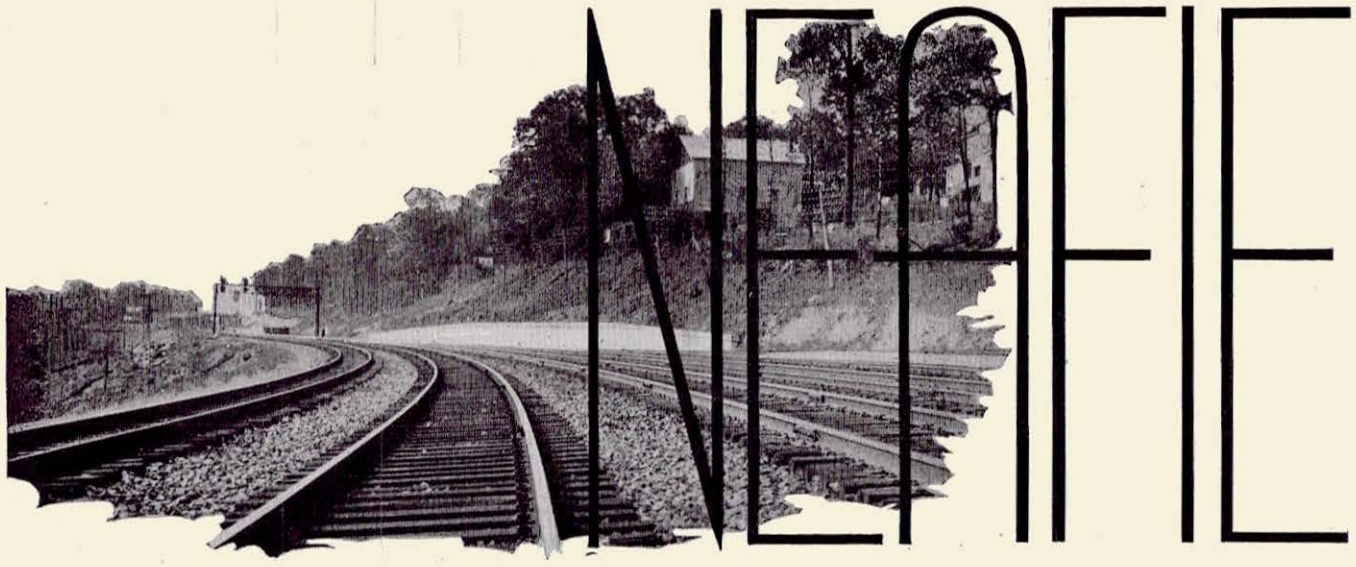
We leave the choice to you. But no matter what the need, Ames-Baldwin-Wyoming produces shovels to meet the need and does it better today than it has ever been done before.

AMES · BALDWIN · WYOMING SHOVEL CO.

NORTH EASTON, MASS.

Operating Plants in

ALTON, ILLINOIS · ANDERSON, INDIANA · MONTPELIER, INDIANA · NORTH EASTON, MASS.
PARKERSBURG, W. VA. · PITTSBURGH, PENNA. · WYOMING, PENNA.



A Proved American Track Construction

IN these days of heavy traffic and high speeds, maintenance costs are more than ever an item of serious consideration.

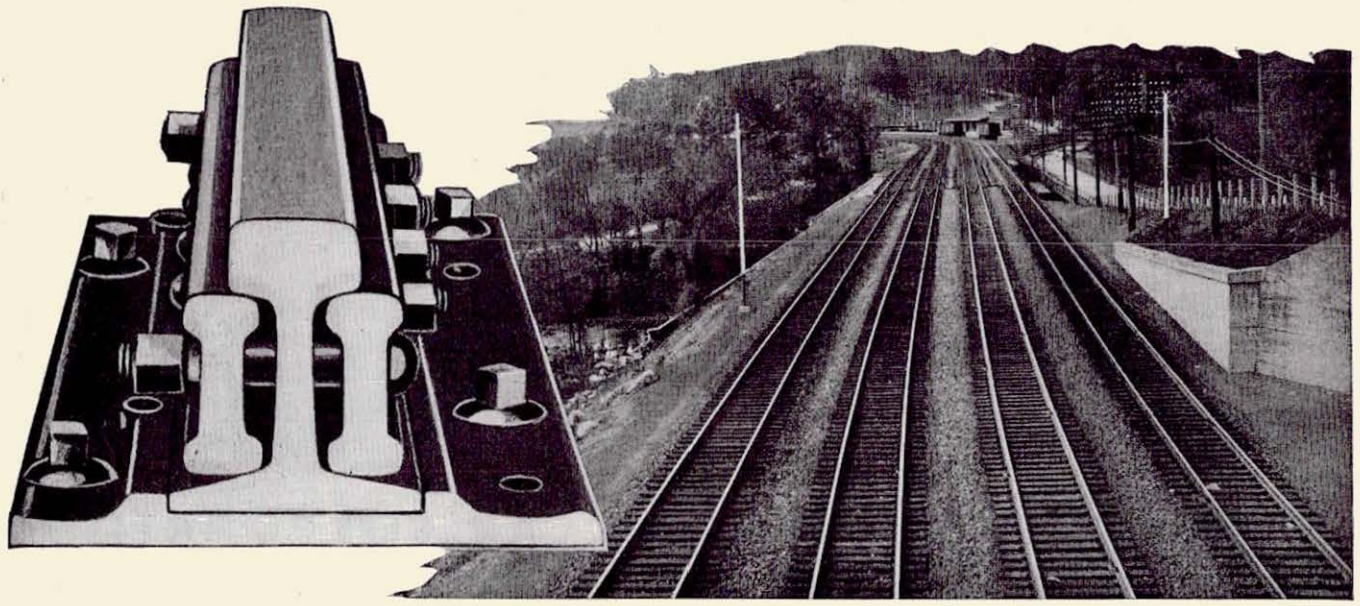
The Neafie Rail Joint with its heavy broad base plate constitutes a great stride toward permanent track construction and therefore an active agency of economy and at nominal cost.

In addition to its characteristics of permanence, it is a tie saver and a labor saver.

These facts have been demonstrated over the past eight years.

THE RAIL JOINT COMPANY

165 Broadway—New York



"STRIKE THE SAILS, SKIPPER WE'RE GOING OFF THE TRACK!"

A railroad car that sailed before the wind! Such was the Aeolus, *built in 1830. It was a great success... until it was blown from the track and piled into a mud-bank. The "engineer", a former sea captain, couldn't strike the sails in time.*

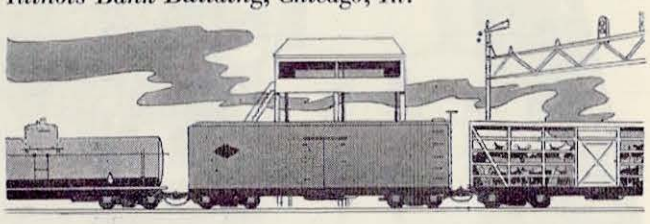
• • •

TO THE MEN who built the *Aeolus*, the railroad was a dream and a hope. But even their wildest dreams and fondest hopes did not foresee the railroad of today—the most efficient means of transportation the world has ever known.

Trains roaring across the country—spanning a thousand miles in less than a day. Efficient delivery of perishables over great distances. Of food, clothing, chemicals, building materials—thousands of products and commodities necessary for the existence of millions of people. Modern civilization could not exist without the railroads.

To insure prompt delivery the railroads must always have sufficient cars—cars which, on short notice, may be routed to any part of the country. But the number of special cars necessary to take care of a nation's transportation needs requires an investment prohibitive even to many of the largest lines. Such cars are not always in service. Their use is seasonal. During the rest of the year they must remain idle. And idle cars mean tremendous expense.

Many railroads therefore, maintain only sufficient cars of a special nature (such as refrigerator and tank) for their daily requirements. And, at peak seasons, they call upon the General American Tank Car Corporation for additional equipment. General American, by leasing cars first to one road and then another, is able to operate its fleet of 50,000 cars economically throughout the entire year. And thus it becomes the railroads' most efficient aid—enabling them to render better service than otherwise could be possible. *Address Continental Illinois Bank Building, Chicago, Ill.*

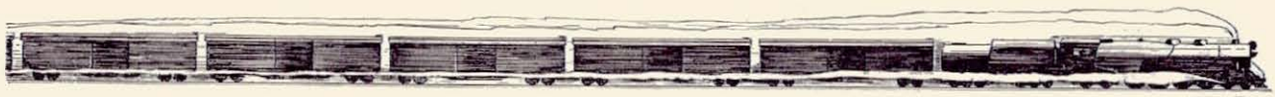


GENERAL AMERICAN TANK CAR CORPORATION

BUILDERS OF ALL TYPES OF RAILROAD FREIGHT CARS

THIS IS ONE OF OUR NATIONAL MAGAZINE ADVERTISEMENTS TELLING PEOPLE THAT ALL RAILROADS ARE THE MOST EFFICIENT MEANS OF TRANSPORTATION MAN HAS EVER KNOWN

SHORT STOPS FOR LONG TRAINS



QUICK STOPS FOR FAST TRAINS

SAFE STOPS FOR ALL TRAINS

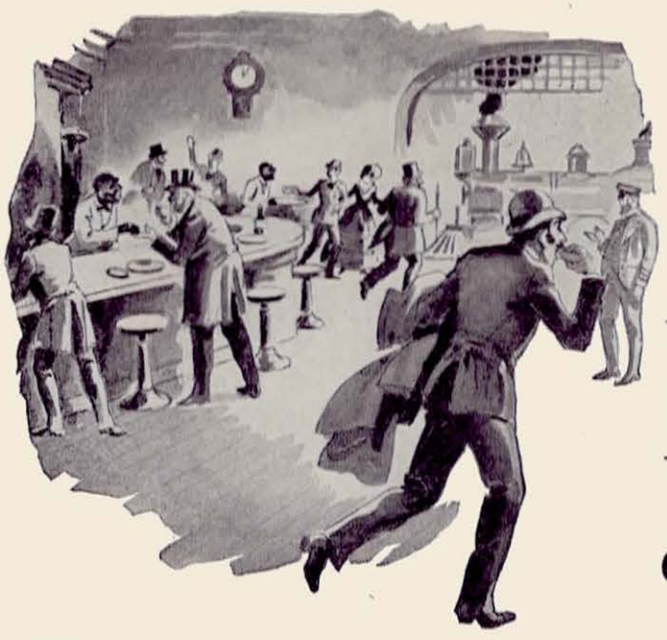
MORE speed, heavier trains but greater safety. These are the demands which railroad men must meet today. The modern locomotive can haul 15 cars as fast as a 10 car train traveled in 1920, and with locomotive horsepower more than doubled in the past ten years and drawbar pull increased in proportion there must, for safety sake, be a corresponding increase in braking.

Diamond "S" Brake Shoes anticipated these increased demands and stop the trains of 1931 just as quickly, as evenly and as surely as they stopped the trains of 1920.

They are the result of thousands of tests made in the laboratory and on the rails — hundreds of formulae tried, until one was found which fulfilled, in terms of efficiency, low maintenance, and safety, the requirements of modern railroading.

The American Brake Shoe and Foundry Company

230 PARK AVE., NEW YORK
332 SO. MICHIGAN AVE., CHICAGO

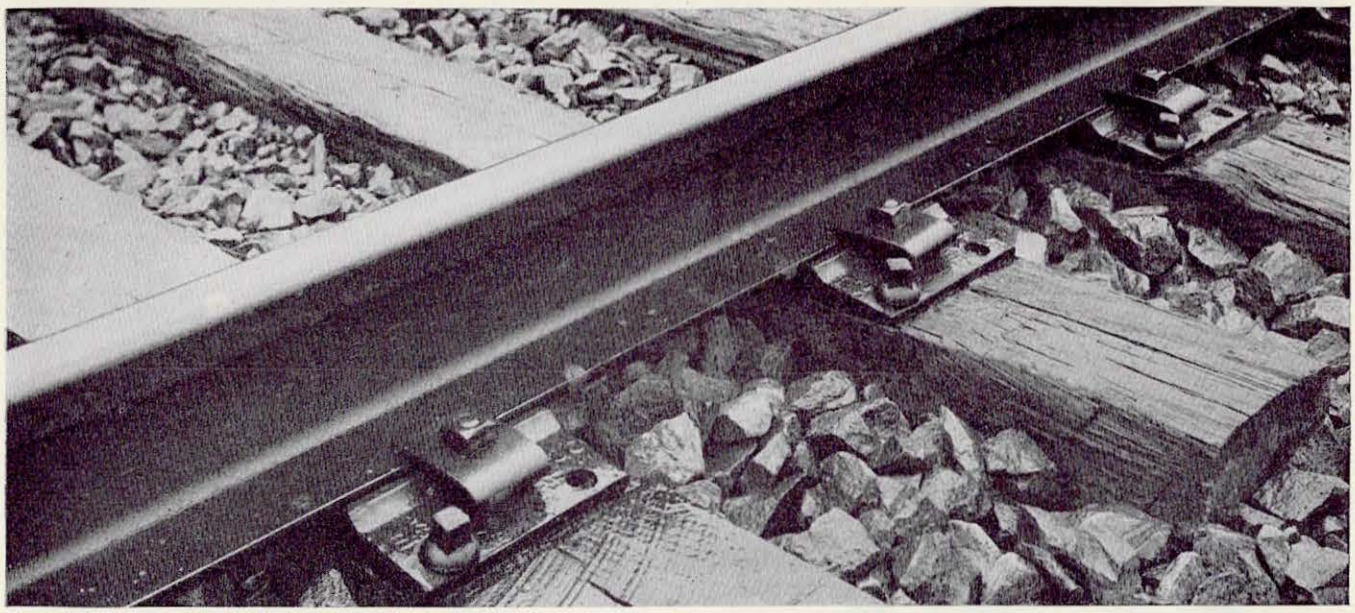


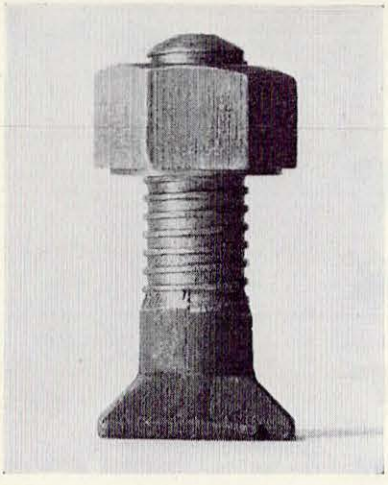
Back in the days when a diner was a rarity, Western Electric was making telephones, gaining knowledge later essential in producing reliable telephone train dispatching equipment . . .

Western Electric Train Dispatching Systems contribute to the efficiency of every Class A railroad in the country.

Graybar Electric Co., Graybar Building, New York, N.Y.
Gentlemen: RA 11-31
Please send information regarding
Railway Train Dispatching Telephone Systems . . ☐
Lead Covered Telephone Cable . . . . . ☐
Public Address System . . . . . ☐
*Name*_____
*Address*_____
*State*_____

Western Electric
TRAIN DISPATCHING TELEPHONE SYSTEM
Distributed by
GRAYBAR ELECTRIC CO.





DARDELET

SELF-LOCKING BOLTS AND NUTS in the DELAWARE & HUDSON model track construction

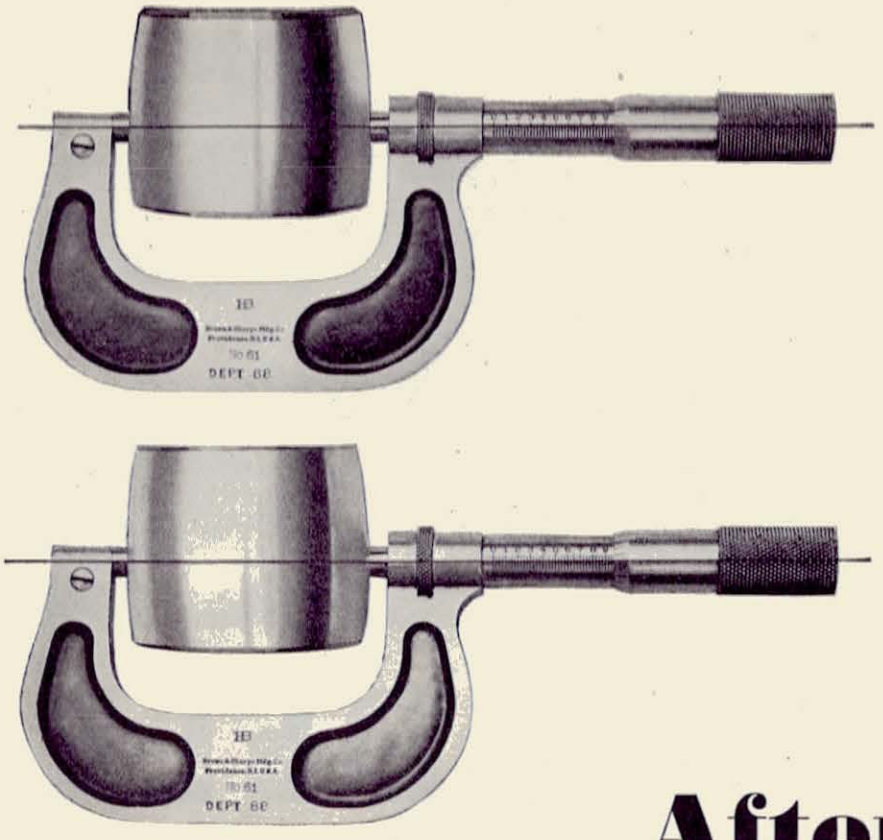
(Top)—**Q & C TIE PLATE CONSTRUCTION, M. & L. TYPE.** Specially designed double-shouldered plates are securely lagged to the ties. Spring lever rail fasteners, assembled with ¾" Dardelet bolts and nuts, hold the rail firmly in place and at the same time equalize and control wave motion. These features of design make for smoother riding track, prolong the life of the track, and reduce the mechanical wear on the tie to a minimum. (Photograph by courtesy of the Delaware & Hudson Railroad). *(Below)*—**DARDELET-THREADED CLIP BOLT WITH SPECIAL HEAD FOR M. & L. TIE PLATE ASSEMBLY.** The Dardelet Thread is locked by the wedging action of tapered thread faces which come in contact when the nut is tightened against the work. No maintenance beyond occasional inspection is required.

Four years of engineering study and experimental work by the Delaware & Hudson were used to perfect the Q & C Plate Fastening, M. & L. Type. Test installations proved that the objective of producing a stronger, safer, and more economically maintained track structure had been attained.

Dardelet-threaded bolts have been chosen for this model track construction not only because the self-locking thread holds tight under all operating conditions, but because the free-running nut materially reduces assembly costs... In the eighty miles of track now in service, 375,000 Dardelet-threaded clip bolts and 5000 Dardelet track bolts are installed.

Materials for Q & C Track Construction, including Dardelet-threaded clip bolts, can be purchased from the Q & C Company, 90 West Street, New York, N. Y. The Q & C Company have exclusive selling rights for M. & L. Tie Plates.

DARDELET THREADLOCK CORPORATION **120 BROADWAY, NEW YORK, N. Y.**



After 1,000,000 Miles

No Evidence of Wear

HOW long will an SKF Journal Bearing last?

We don't venture to predict but here is an indication.

After an SKF Journal Bearing had made a million miles under standard passenger equipment two rollers were picked at random and measured. There was no appreciable change from their original dimensions or contour.

Such performance comes from adequate bearing capacity to start with.

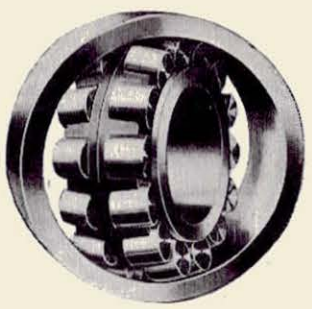
Then, too, SKF bearings are self-aligning. They divide the load equally at all times between the two rows of rollers. There is no uneven load distribution to cause premature fatigue and shorten bearing life.

There are sound reasons for the longer life of SKF bearings —reasons that arise from the fundamental design of the bearing.

2797

SKF INDUSTRIES INCORPORATED, 40 East 34th St., N. Y.

SKF
JOURNAL
BEARINGS



OXWELDING

means faster repairs

A PROMINENT labor leader, in a recent article in The New York Times, says: "Repairs which before the introduction of the oxy-acetylene welding process took eight men three weeks for one locomotive can now be done in from three to seven hours with a force of not more than four men."

Oxy-acetylene welding speeds repair work and reduces its cost because it makes the ordering and stocking of replacement parts unnecessary. By fusing the damaged members into a permanently solid unit, it produces a joint that is as strong as, or stronger than, the metal itself. It can be used on iron, steel, aluminum, copper, lead, brass, bronze, and many ferrous and non-ferrous alloys.

Oxy-acetylene cutting provides a quick, easy way to cut steel and iron to shape, to demolish steel and iron structures, and to increase the value of scrap by cutting it into charging box sizes.

For nineteen years, The Oxweld Railroad Service Company has contributed to the efficiency of American railroads by providing them with the best methods and materials for oxy-acetylene welding and cutting. Year after year, the majority of Class I railroads are finding this service of increasing value.

OXWELD RAILROAD SERVICE

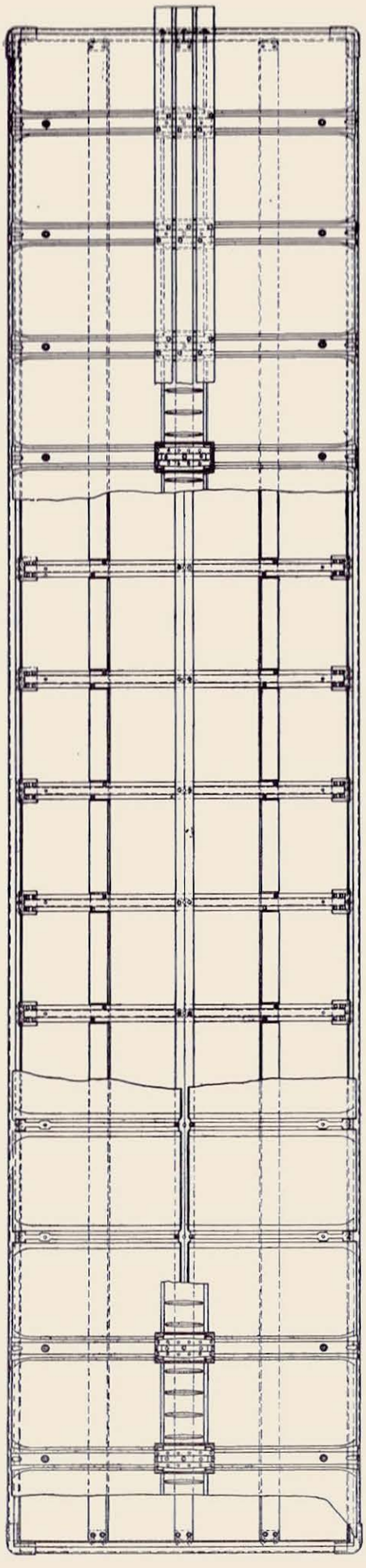
THE OXWELD RAILROAD SERVICE COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

NEW YORK, Carbide and Carbon Building

CHICAGO, Carbide and Carbon Building



Study This Construction

Here is the roof that holds a car frame the most rigid and reduces the strain on the super-structure.

It is the Universal Dry Lading Roof.

It is patterned after the underframe of a car.

Its carlines, purlines, caps, saddles and flashings are rigidly secured to the car and to one another.

That is why it outlasts all others 2 to 1.

Its roof sheets float.

Only nine different one-size and one-design parts are required.

The same nine parts will roof any width, length or design of house car.

It does what it takes thousands of other roofs to do.

Hutchins Car Roofing Company

RAILWAY AGE

Will Wages Be Reduced by Agreement?

Never in history did railway managements so greatly dislike to seek reductions of wages as now. The average hourly wage of railway employees has been advanced since 1923 until it is now higher than ever before. It is, however, universally conceded by railway officers that during this period the loyalty and efficiency of employees have been greater than ever before. The subsidized and unregulated competition of other means of transportation has diverted traffic from the railways and thereby reduced both railroad earnings and employment. The employees of the railways have become keenly aware of the effect of this competition on their welfare, and it has stimulated their already growing disposition to cooperate with the managements. This tendency has been illustrated by the resolutions regarding unfair competition that have been adopted by the labor organizations and by their support of the recent application of the railways for an advance in rates. Railway managements are extremely loath to take any steps which may impair the present morale and loyalty of employees.

Effects of Reduction of Wages

The managements are, however, confronted with conditions which must be squarely faced by both them and the employees. Competition of other carriers, regulation by the Interstate Commerce Commission and the depression have so reduced the earnings of the railways that many of them are threatened with bankruptcy and the credit of the entire industry is in jeopardy. The plan of making a small advance in rates and pooling the revenues derived from it, which has been offered by the commission, would, if accepted, do the railways very little good, and it is doubtful if there is any legal or practical way in which to carry it out. Business is beginning to improve, but it is extremely doubtful if within the next year traffic will increase enough to enable many of the railways, without a reduction of wages, to solve their acute financial problems. The only means available for solving the immediate pressing problem of the railroad industry is a reduction of wages.

A reduction of wages would curtail the incomes of employees who would remain at work, but it would increase railroad employment and stimulate general business. The total amount of wages the railways can pay out of their present and immediately prospective earnings is strictly limited. Therefore, the maintenance of the present average hourly wage unquestionably causes, and would continue to cause, extensive unemployment. The number of railway employees in August, 1931, was only 1,288,074, or 471,479 less than in August, 1929. The total amount of wages paid in August, 1931, was only $178,176,000, or $37,600,000 less than in August, 1930, and $82,000,000 less than in August, 1929. The maintenance of hourly wages under such conditions as those now existing does not maintain the total pay roll. It simply reduces the number of men to whom wages can be paid. It is contended that wages should be maintained to maintain labor's purchasing power; but unemployment largely destroys the purchasing power of those who are thrown out of work, and the greater becomes the number of unemployed the greater becomes the fear of the employed that they will become unemployed, with the result that they reduce their purchases. In consequence, as experience during this depression has demonstrated, the maintenance of wages in such a period does not maintain either labor's purchasing power or its purchases. By making unemployment greater than it otherwise would be it reduces the purchases of both the unemployed and the employed.

The answer to the question as to whether railway wages should continue to be maintained depends upon the correct answers to several other questions. What will be the effect upon the solvency and credit of the railroads? Railway employees cannot afford to ignore this question, because future railroad employment and wages will depend upon the solvency and credit of the railroad industry. Does the main-

tenance of wages tend to increase the number of unemployed railway men? Those who are still employed cannot fairly disregard the tendency that any policy has to prevent others from getting employment. What will be the effect upon general business? Any policy that tends to increase unemployment is bad for general business, and whatever is bad for general business is bad, in the long run, for everybody. Do not the declines that have occurred in the cost of living and in the incomes of a large majority of other persons warrant a reduction in railway wages? Railway labor leaders and employees should answer these questions before they answer the question as to whether railway wages should be reduced.

Wages in Depression and Prosperity

The general tendency in industry, if it is well managed and labor is efficient, will be in future, as it has been in the past, toward increased production per worker. Increased production per worker always has and always will, under conditions of prosperity, result in increases of wages—not necessarily in money wages, but in the purchasing power of wages. The nation is not now in a period of prosperity, however, and the paramount question today is as to what should be done to restore prosperity as quickly as possible. Prosperity cannot be restored while major industries are being conducted at a loss. The railroads are one of our major industries, and are now being conducted, considering the deterioration in their properties that is occurring, at a heavy loss; and if railway labor leaders and employees insist upon the maintenance of present wage scales, they will exert their powerful influence for a continuance of depression in the railroad industry and general business.

The ideal solution of the problem would be for railway managements and employees to agree upon and put into effect as quickly as possible such reductions of wages as are demanded by present conditions and as already have been made in most other industries. The managements have voluntarily maintained wages throughout two years of depression at the risk of financial disaster to the railways. Will railway labor leaders and employees now treat the railways as fairly, and even generously, as the railways have treated the employees?

Improvement in Business

Business is improving. It will continue to improve from now on. How rapid the improvement will be will depend upon the rapidity with which economic readjustments still needed are made. The *Railway Age* is no Pollyanna and does not believe in Santa Claus. The predictions here made are based, not upon recent evidences of a widespread increase in "confidence," but upon manifest facts and tendencies.

On October 5 there was a decline in stock market prices which forced them to the lowest level reached during the present depression. In an editorial in its issue of October 10 the *Railway Age* said that the stock market threw "not a ray of light upon the fundamental conditions and vital influences which are determining what general business will be a year from now or even a month from now. * * * The collapse of the stock market (in 1929) and the decline of commodity prices have made necessary numerous important readjustments. Many of these have been made. Others needed are being made."

Evidences of Improving Business

As we then anticipated, the stock market has proved to have been not a barometer, but a thermometer. The level of stock prices at that time was due to the fact that business was still at its worst, and did not forecast developments at all. September was the worst month for general business during the present depression, and probably the worst month in history for the railroads. In September car loadings were 35 per cent less than in 1928 and 36 per cent less than in 1929. In October they were 34.7 per cent less than in 1928 and 34.3 per cent less than in 1929. In the week ended October 31 they were relatively the best within ten weeks, being 32.9 per cent less than in 1928 and 31 per cent less than in 1929. The improvement has been small but real. The depression produced its first plain effect on railroad freight business in October, 1929. During the two years since then every prediction regarding an upturn in business has proved wrong. Nevertheless the *Railway Age* takes the risk of confidently predicting that September, 1931, will prove to have been the worst month of this depression.

The reasons for expecting this are numerous. Perhaps the most important are the recent remarkable advances in the prices of grain and cotton, which are putting increased purchasing power where it is most needed and is most likely to be effective—in the hands of the farmers. Prices of other commodities also have stiffened. There has been extensive liquidation of broker's loans upon securities, and between October 5 and November 7 the Dow-Jones average of prices of railroad stocks increased from 45.68 to 54.43 and of industrial stocks from 86.48 to 115.60. The stock market thermometer has been responding to the warming influence of improving business, and these increased prices of securities afford a stronger basis for credit for the many persons who are in debt to the banks. The creation of the National Credit Corporation has strengthened the entire banking structure. Downward readjustments in wages have continued, with the result of enabling numerous business concerns to reduce their losses or increase their profits; and the tendency of this is to increase employment.

The principle essential to a revival of business, after a long period of profound depression, is the completion of readjustments required to reestablish that

economic parity between different industries and classes of persons without which prosperity cannot exist.

These readjustments include advances in prices, reductions of wages, and, under such conditions as now exist in this country, reductions of government expenditures and taxes. Many necessary readjustments have been made. Many are still being made. Many others have been begun. The railroads imperatively need both an increase of traffic and a reduction of wages. An increase of traffic, although as yet almost imperceptible, actually has begun, and the railway wage question is beginning to be grappled with. A fight for a reduction of government expenditures and taxes is being made in every part of the country, and its success is essential to the restoration of real prosperity. The total national income in 1929 is estimated at $90,000,000,000, and total taxes were about $13,000,000,000, or 14.4 per cent of this total income. The total national income in 1931 is estimated at only about $55,000,000,000, and as total taxes have been reduced but little, they are probably this year over 20 per cent of the nation's total income. To get taxes reduced enough will be the most difficult of all readjustments to accomplish. When Congress meets it will be deluged with proposals for increased government expenditures to give employment directly or indirectly, or to "relieve" the depression in other ways. Nothing could do more to arrest the improvement of business now beginning than the success of such proposals.

Hope for the Railways

It is significant that while, within a little more than a month after stock market prices reached their lowest level, the advance in the average price of railway stocks was 19 per cent, the advance in the average price of industrial stocks was 34 per cent. The decision of the Interstate Commerce Commission in the rate advance case was made public on October 20, and its effect on the attitude of investors and speculators is indicated by the fact that prices of industrial stocks have advanced relatively almost twice as much, since October 5, as prices of railroad stocks. On the other hand, in spite of the decision in the rate case, there is more reason for optimism regarding the future of the railroads than there has been for months. What they need most of all now is a reduction of wages, and the decision of the commission has at least served the purpose of demonstrating that wages must be reduced. If the commission had granted a substantial advance in rates public sentiment on the question of reduction of railway wages would have been divided. The commission's refusal to authorize an advance in rates has forced a large majority of persons, including many railway employees, to recognize the fact that a reduction of wages is inevitable. The constructive suggestions of the commission regarding the equalizing of government treatment of different means of transportation and better co-operation between the railways themselves are also encouraging.

The improvement of business may be slow, but if the economic readjustments still needed are not too strongly resisted it may be more rapid than most persons anticipate. The first evidence of an improvement in railway freight business in the last depression appeared in February, 1922, and the improvement continued steadily until in November, 1922, car loadings exceeded those of November, 1920. By that time the improvement in business had received such an impetus that in 1923 railroad freight business exceeded all previous records.

Those who are most likely to interfere with the improvement in business now beginning are the political and economic quacks who believe that unemployment can and should be reduced and business stimulated by the adoption of measures which would increase government interference in business and the already enormous burden of taxation.

Socialism for Purposes of Comparison

The committee on utilities of the "Conference of Progressives" in Washington recently went on record as favoring the establishment of a government railway system to compete with privately operated companies, so that "the transportation service of the nation may be improved and standards of service and of rates may be established, which can be applied in the regulation of private enterprise."

A day or two before the "progressives" adopted this resolution General T. Q. Ashburn, the head of the government-operated Inland Waterways Corporation, in an address at Charleston, W. Va., was reiterating his customary claims of profitable operation of this enterprise. These statements of profits arise, not from the facts which would have to be faced by any private corporation engaged in the business, but from the peculiar accounting used by the government barge line. It does not charge interest on the investment in its facilities—although it does include in its earnings interest received on advances from the government. It pays no taxes on the property it owns. It pays nothing whatever toward the cost of constructing or maintaining the waterways it uses. With such accounting by the outstanding government-operated transportation enterprise as an example, what indication is there that a government-owned railroad system would develop any facts of consequence in establishing "standards of service and rates . . . which can be applied in the regulation of private enterprise?"

Would the proposed government railroad system be charged with interest on the investment in it? Would it have to pay taxes on the same basis as private com-

panies? Would it be forced to compete for traffic on equal terms with privately operated railroads, or would it be granted an arbitrary differential under their rates? Would its figures reflect the costs of maintaining its roadway? We ask all these questions because they would be answered in the negative in the case of the government's present transportation venture. If they should be so answered for a government railway system, then any comparison with privately owned railways would be entirely misleading and without value.

Many public-owned utilities likewise are able to make favorable showings of earnings because they are not taxed and because in other ways their accounting does not follow the accepted form used of necessity by private industry. But does this peculiar governmental accounting cause public ownership advocates to refrain from making comparisons? It does not. They make them *ad lib.* whenever they seem to support a policy of public ownership, although the more intelligent among such advocates must know that such comparisons are misleading, if they are not plainly dishonest.

We suggest to the "progressives", therefore, that their plan for a government railway to develop comparisons with private enterprise might be taken somewhat more seriously if they would first give evidence of good faith by insisting that the accounting of existing governmental business ventures be put on a basis of fair comparability with that of private concerns. Until some progress is made in this direction a competing government railway can promise nothing more alluring than the addition to the groaning federal payroll of more public servants of the Ashburn type. And the land would resound with demagogic speeches pointing with pride to figures, without real significance, but purporting to show the profitability of still another government venture into the realm of business.

Why Shippers Use Trucks

There is general knowledge of the fact that motor trucks are diverting from the railways a steadily increasing volume of traffic. There is less general knowledge, however, of the reasons why shippers often prefer truck transportation as it is now offered to railway freight service. In fact, we believe it is reasonable to say that the average person has a very narrow conception of the situation. This was indicated during the recent Interstate Commerce Commission hearings on the railways' application for a general rate increase, one shipper witness after another testifying that an increase in the cost of rail transportation would result in immediate and extensive diversion of rail traffic to motor trucks.

What are the reasons for shippers' preference of truck service to rail service? Is cost the major factor in their choice? Writers have discussed this subject in the columns of the *Railway Age* during recent months, but none more clearly and to the point than Russell W. Talbot, Strathcona Memorial Fellow in Transportation at Yale University, extracts from whose survey entitled "The Shipping Situation Between New York and Philadelphia," have been published in recent issues of the *Railway Age*. The basic purpose of Mr. Talbot's study was the determination of what form of co-ordinated rail and truck service will be successful in overcoming the competition of motor truck service. But his development of the reasons why shippers use trucks, while merely incidental to his principal purpose, is in itself interesting.

Mr. Talbot secured his information from fifteen shippers, representing manufacturers of paper and paper products, textiles, chemicals, hardware, floor covering, radio sets, confectionery, cracker and cake products, paint and cigars. His conclusions are that there are 10 separate factors in the preference of motor truck service by shippers. These are overnight delivery, shipping costs, store-door delivery, loss and damage, direct contact with the transportation agency, non-scheduled rush service, packing requirements, store door reconsignment without transfer, settlement of claims, and special factors pertinent to the particular business involved.

Some of these factors are of prime importance and others are of only secondary importance. Mr. Talbot determined the relative importance of each of these factors to the individual shippers, with results which may be surprising. Shipping costs, for example, were found to be not nearly so important a factor as overnight delivery. Two shippers considered shipping cost the essential factor in their choice of truck transportation, two considered it an important factor, and one an incidental factor. Ten did not mention it at all. Thirteen shippers considered overnight delivery to be the most important consideration, while the other two held it to be a desirable factor. Store-door delivery service was found to be a desirable factor to 10 shippers and an incidental factor to four shippers. Loss and damage was found to be an essential factor to one shipper, a desirable factor to four, and an incidental factor to one. Unscheduled rush service in emergencies was found to be a desirable factor with five shippers and an incidental factor to one. The other reasons for the preference given to truck service were found to have weight in only one or two cases.

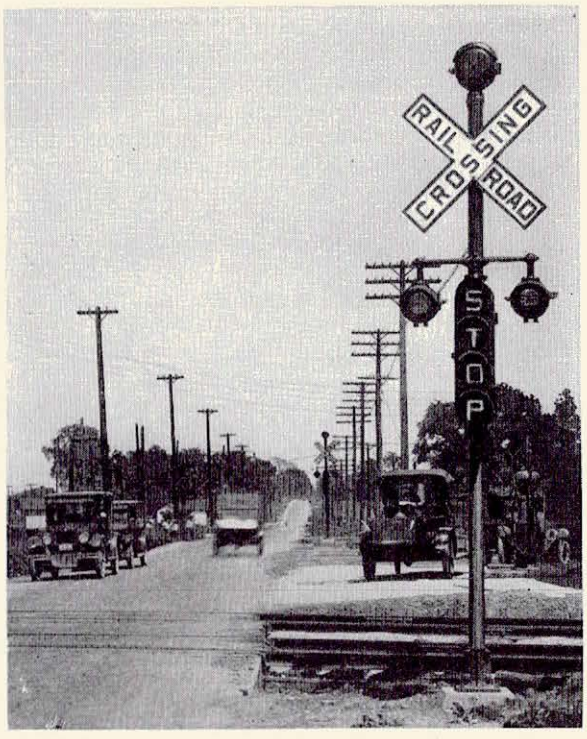
Mr. Talbot's findings are in accord with those of railway officers who have been successful in overcoming truck competition in their territories. Comparative rates are essential, but so is comparative service. Either one without the other, if adopted by the railways, will probably be unsuccessful. With equal rates and with equal or better service, however, any railroad can be confident of victory in the competitive battle with truck lines. Traffic lost to trucks is not traffic irretrievably lost.

Modern Highway Crossing Protection Reduces Operating Costs

Automatic or part-time manual control replaces watchmen and gatemen—One road is saving $200,000 annually in operating expenses

THE installation of highway crossing signals or gates, with automatic or centralized manual control, in place of crossing watchmen or gates operated locally by hand, will effect savings equivalent to 30 to 100 per cent on the cost of the improvements and at the same time provide full 24-hr. protection as compared with part-time service otherwise.

Prior to the advent of the automobile, the protection of highway grade crossings with railways was confined primarily to the installation of warning signs indicating the location of the crossing, since drivers of horse-drawn vehicles had ample time and opportunity to look for approaching trains except at points where buildings or high banks cut off the view, at which places watchmen or warning bells were commonly employed to indicate when trains were approaching. During the last 20 years the rapid development of improved highways carrying fast-moving automobiles in ever-increasing numbers has introduced an entirely new problem for the railroads. As individual cases have come up for attention from time to time, a watchman has been added at one crossing or gates installed at another without full realization of the rapidly increasing number of men that are being employed for such work. With increased wages and the limitation of working hours during recent years, this non-revenue service has made heavy charges against operation. For example, on 66 miles of a double-track division on a western road, the operating charges for crossing protection, including gatemen and flagmen, approximated $216,000 a year, or $3,272 per mile of line.



A. R. A. Standard Flashing-Light Signal With Illuminated STOP Sign on the Indianapolis Union

Table I—Analysis of the Net Change in Number of Crossings, Railway with Highway, Years 1926 to 1930, Inclusive

Year ended	Number beginning of year	Number at end of year	Net increase
December 31, 1930	240,302	240,673	371
December 31, 1929	241,341	242,809	1,468
December 31, 1928	238,392	240,089	1,697
December 31, 1927	235,331	236,283	952
December 31, 1926	233,701	235,158	1,457

Analysis of Net Increase

Year ended	Number actually added during year	Number actually eliminated during year	Net of actually added and eliminated	Number added due to change in description, recount, etc.
December 31, 1930	1,848	1,984*	136	507
December 31, 1929	1,945	1,397	548	920
December 31, 1928	2,068	1,204	864	833
December 31, 1927	1,909	1,391	518	434
December 31, 1926	1,876	1,254	622	835

* 403 crossings eliminated by separation of grades.

The Size of the Problem

According to data taken from the records of the Interstate Commerce Commission, as shown in Table I, there were 240,673 highway-railroad grade crossings in the United States at the close of 1930. Although the active campaign which was carried on in 1930, resulted

Table II—Number of Crossings, Steam Railway with Highway, at the Beginning and at the End of Year Ended December 31, 1930

Kind of protection	Number at beginning of year	Number at end of year
Gates, with or without other protection, operated 24 hours per day	3,090	2,947
Gates, with or without other protection, operated less than 24 hours per day	2,259	2,060
Watchmen, alone or with protection other than gates, on duty 24 hours per day	1,242	1,260
Watchmen, alone or with protection other than gates, on duty less than 24 hours per day	5,752	5,454
Both audible and visible signals, without other protection	8,531	9,139
Audible signals only	4,181	3,959
Visible signals only	4,581	5,468
Total protected	29,636	30,287
Special fixed signs or barriers, with or without standard fixed signs	35,345	35,543
Standard fixed signs only	170,854	170,191
Otherwise unprotected	4,467	4,652
Total unprotected	210,666	210,386
Grand total	240,302	240,673

in the elimination of 1,984 crossings, more than 1,848 new crossings were added, thus effecting a net reduction of only 136. It is evident, therefore, that in spite of the heavy expenditure for the elimination of crossings, the problem cannot be solved in this way. Therefore, attention is turned to means of protecting the crossings.

As shown in detail in Table II, protection by other means than fixed signs was provided at 30,287 crossings in the United States at the end of last year. Of this total, audible or visible signals, or both, without other protection, were in service at 18,562 crossings. As this type of equipment is ordinarily controlled automatically by track circuits, there is little opportunity to reduce the operating costs. However, there is a big opportunity for making savings in operating expense at the

In order to meet the requirements for remote or automatic control, gates are available which may be run into without damage to the automobile or the gate itself. Likewise, these gates can be lowered on a car without damage to the vehicle. Such gates, controlled automatically, are being used quite extensively on the Chicago, North Shore & Milwaukee, while the Louisville & Nashville has crossings so equipped and the Illinois Central is making a similar installation. The Chicago & North Western has a set of such gates with remote manual control in service near Chicago.

Gates or Watchmen Replaced by Signals

In some cases, manually-operated gates were installed years ago when such apparatus was the only type of protective equipment available. However, the protec-

A. R. A. Standard Signal With Reflector Buttons for Crossing Sign on Erie

Rotating Disk STOP Signal with Flashing Lights on Milwaukee

Modern-Type Automatically-Controlled Hydraulic Gate on the L. & N. in Louisville, Ky.

4,947 crossings where gates are in service, as well as at the 7,714 crossings where watchmen are employed. At many such locations, improved types of protection can be installed to replace existing arrangements or the control system can be so changed as to eliminate or reduce the number of watchmen or gatemen. Furthermore, the equipment that must be installed within the next few years at many of the 210,386 crossings not now protected by other than fixed signs, should be of a nature that will provide the maximum benefit with the minimum expenditure for operating expenses.

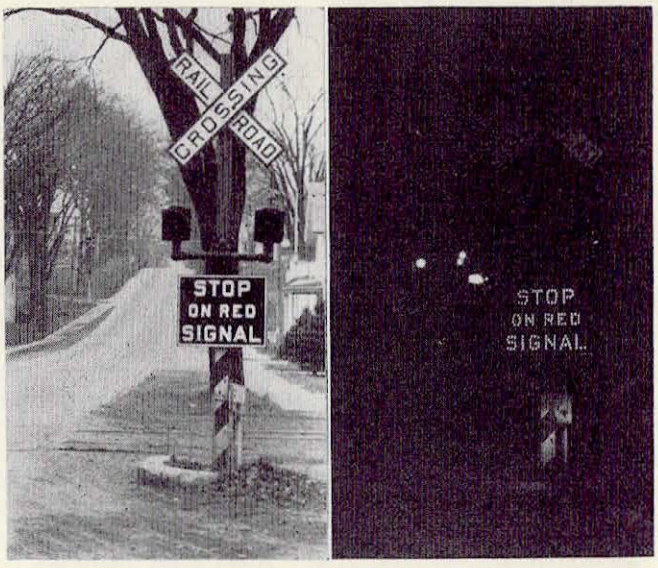
Economical Operation of Gates Where Required

The maintenance and operation of manually-controlled gates is expensive in comparison with other methods of protection. However, for certain locations, no other form of protection seems to be adequate and recourse can be had only to measures for reducing the expense of operating such gates. For example, on a high-speed electrically-operated suburban line of the Illinois Central within the city of Chicago, where there are crossings at grade at every block, the gates at several adjacent crossings are controlled from one point. Likewise, the Canadian Pacific is using electrically-operated gates controlled by levermen in nearby interlockings as a means of dispensing with the service of gatemen.

tion now afforded by some of the modern types of crossing signals makes it practicable in many cases to replace the gates with signals. In cities or towns where street crossings are close together and where switching movements make automatic control impracticable, the signals can be controlled manually from a central point. In places where switching operations are confined to certain periods of the day, manual control can be used during this time and the system cut over to automatic track circuit control during the remainder of the 24-hr. period.

Again, the Wabash has installed flashing-light crossing signals with illuminated Stop signs at 13 street crossings in Wabash, Ind., to replace gates at 9 of the streets and flagmen at 2 others, while signal protection is now afforded at 2 crossings where none was provided before. In this case the maintainer's helper is on hand to control the signals manually when the local freight train is switching, but the control is automatic the remainder of the time. The annual pay-roll saving effected by eliminating the 11 gatemen and flagmen totals $7,800, an amount sufficient to pay for the new installation in 2½ years or a return of 40 per cent on the expenditure. Furthermore, the gates and the flagmen were on duty only 12 hr. daily, whereas the signals provide full 24-hr. operation, a service that is appreciated by the public.

As another instance, the Louisville & Nashville replaced manually-operated gates with automatically-controlled flashing-light signals at six crossings in East St. Louis, Ill. The total cost of this signal installation was $8,990, as compared with a net annual saving of $10,831 for maintenance and operation. This new protection



A. R. A. Standard Signal With Reflector-Type "Stop on Red Signal" Sign as Used on the New Haven—The Night View at Right Shows How the Light From An Approaching Automobile Makes the Letters Stand Out

which has received the approval of state and city authorities, provides 24-hr. protection, as compared with 18-hr. protection provided by the operation of the gates.

Likewise at Elgin, Ill., the Chicago & North Western installed signals at 25 street crossings, replacing gates at 19 crossings and flagmen at several others. By means of centralized control of the signals in the most congested area, only 8 men are now required, as compared with 22 previously. This pay-roll saving of $9,213 annually represents about 70 per cent of the construction expense of $12,650.

The Chicago, Milwaukee & St. Paul has replaced gates by rotating disk signals with flasher lights at numerous locations. For example, in Oconomowoc, Wis., signals have been installed at seven crossings, at five of which gates were formerly in service, while a pump-man worked part time as a crossing watchman so that an automatically-controlled electrically-operated pump, replacing a steam plant, was included in the improvements. The annual saving in operating expense, due to the reduction in the number of men, represents a return of 36 per cent on the entire investment.

Again, the Indianapolis Union Railway has installed signals at 22 crossings, and is saving 33 per cent annually on an investment of $15,894. Numerous other installations, as on the Pennsylvania at Kokomo, Ind., on the Missouri-Kansas-Texas at Clinton, Mo., on the Santa Fe at Beaumont, Tex., on the Erie at Cambridge Springs, Pa., and on the New York Central at Syracuse, N. Y., are all providing better protection than was formerly furnished and in addition are making excellent savings in operating expenses.

Increased Effectiveness of Signals

Certain recent developments in crossing protection apparatus, as well as changing conditions, are contributing to make crossing protection equipment still more effective. On account of the extensive use of automatically-controlled "Stop and Go" street traffic signals in cities as well as towns all over the country, the average automobile driver has become accustomed to being governed by the indication of such signals and is, therefore, habitually watching for similar devices at railroad crossings.

The incorporation of the specific direction STOP as a part of the aspect displayed by crossing signals, according to the new standards of the American Railway Association, has increased the effectiveness of such signals, and the railroads which are using these new signs, in conjunction with new signal installations, are well satisfied with the results. Such roads as the Wabash, the Grand Trunk Western, the Great Northern and the Milwaukee, which have used the STOP feature for years, are convinced of the effectiveness of this type of signal. Decided improvements have likewise been made in electrically-operated gates in order that the operation may be adaptable to remote-manual or track-circuit control.

Negotiations with Local Authorities

Changing the crossing protection, especially within the limits of a city or town, is a matter that should meet with the approval of the city council involved. When representatives of a railroad present such propositions to these city councils they must, therefore, be prepared to explain the advantages of the proposed changes, among which are the more effective indications, the quicker operation, and the full 24-hr. service offered. Ordinarily, the inclusion of a few more streets in the new layout is a persuading factor.

Conditions vary, but the principles involved are the same at most locations. Therefore, it has been found desirable in several cases to center all such negotiations under the jurisdiction of one departmental head. One large road has vested full authority in such matters in its signal engineer, giving him power to negotiate with local city councils, to say definitely what protection the railroad will provide and, last but not least, to assist in carrying the matter to a conclusion by assisting in the preparation of ordinances designed to require reasonable co-operation by the users of the streets. In the last 8 years reductions in net operating expenses, now totaling $200,156 annually, have been made on that railroad through such improvements.

In Next Week's Issue

What is a modern locomotive? What are the contributing factors which account for its economic value? These questions, illustrated by actual results which have been obtained with modern locomotives in service, will be discussed in an article in the Operating Economy Series which will appear in next week's issue.

THE SOUTHERN PACIFIC has established fast freight service between San Francisco, Cal., and Portland, Ore., providing third morning delivery of shipments at these two terminals and cutting the previous time between the two cities approximately 24 hours. Trains now leave both cities at 11 p.m. and arrive at the opposite terminal at 11:50 the second night in time for switching and unloading for early morning delivery.

Calumet Sag Waterway Opposed

Statement filed by Chicago railways shows that proposed waterway development cannot be economically justified

PROBABLY the most complete and remarkable study and discussion of a waterway project ever presented to the U. S. Army Board of Engineers appeared in a brief, signed by 30 railways serving the Chicago district, which was filed on October 21 with the special board of engineers created by the War Department early this year to report upon the advisability of elaborating the existing Lakes-to-the-Gulf waterway plan. The scheme now under consideration contemplates the deepening and widening of the Calumet river, the Little Calumet river, the Grand Calumet river, the Indiana Harbor canal, and the present Calumet Sag channel of the Sanitary District of Chicago. Improvement of Lake Calumet is also proposed. The object of this plan is to provide a waterway leading from the main drainage canal of the Sanitary District, near Lemont, Ill., to Calumet harbor and to Indiana Harbor on Lake Michigan, to be used in the Lakes-to-the-Gulf waterway in place of the Chicago river. The accompanying map illustrates the general scheme of the projected development.

Estimated Cost Over $200,000,000

According to the railways' statement, the proposed waterway plan cannot be economically justified in view of the probable construction costs and available traffic. The total cost of this project is estimated at approximately $215,000,000, requiring, for economic justification, an annual traffic movement of more than 28,600,000 tons of freight, in addition to 7,515,000 tons, which it has already been estimated would move between Lake Michigan and the Mississippi river over the Lakes-to-the-Mississippi waterway as originally planned. It is interesting to note that the proposed plan calls for an expenditure, confined to one county in Illinois and a small area in northeastern Indiana, that would amount to more than 40 per cent of the suggested $500,000,000 federal bond issue to finance inland waterway development. Furthermore, this plan would largely abandon an already-completed link (the Chicago river) in the Lakes-to-the-Gulf waterway, and would thus represent an unnecessary duplication of waterway facilities.

The easterly half of the route of this proposed waterway traverses the Calumet industrial district of the Chicago metropolitan area, and is crossed by the lines of all the railways leading into Chicago from the east and south, in addition to the main lines of the Chicago, Rock Island & Pacific and the Alton. The streams embraced in the proposed development are crossed by 35 railway bridges, all of which would have to be rebuilt to meet the waterway requirements. Terminal facilities, industrial leads, and grade separations would all be seriously disturbed by changes in railway grades necessitated by provision for increased vertical bridge clearance.

Should Not Be Undertaken

The railways' brief first lists the justifications required by law for inland waterway development, stating that: "We have developed facts which, measured by the requirements of the law, show the proposed projects to be without justification." The brief next presents a history of the Lakes-to-the-Mississippi waterway and outlines the railways' general economic position with respect to the proposed project.

The major part of the railways' statement consists of two elaborate and detailed analyses, one of the probable traffic that the proposed waterway will handle, if completed; the second as to the probable costs of construction and the traffic necessary to justify such costs.

In the Harbor Plan of Chicago, the inland waterway trade to Chicago is estimated at 2,200,000 tons per annum. In a report of the Board of Engineers on the Illinois River, transmitted to the Rivers and Harbors Committee of the U. S. House of Representatives in March, 1926, probable annual waterway tonnage between Lake Michigan and the Mississippi River was estimated at 7,515,000 tons. This total included the following items: ore, sand and gravel, 2,100,000 tons; grain, 1,650,000 tons; coal, 1,500,000 tons; lumber, 1,000,000 tons; iron and steel, 465,000 tons; and general cargo, 800,000 tons.

In their detailed analysis of probable traffic, the railways come to the conclusion that the amount of sand, gravel and crushed stone which will move into Chicago over the proposed waterway will not be great, because very little of this tonnage will move from a water-front origin to a water-front destination, and the costs of local rail or truck movement and of interchange will offset possible lower water rates. As to iron ore received at Chicago by lake and moving to St. Louis, savings here, likewise, will be offset and traffic minimized by the cost of transfer and rail movement to industrial plants at destination.

Grain Movement Greatly Exaggerated

With respect to grain, the brief states that the estimate of 1,650,000 tons is greatly exaggerated, and that the only prospect of grain moving by water from Chicago is via the Great Lakes to eastern destinations for domestic consumption. Inbound grain for local and domestic use will not move to Chicago via the proposed waterway, as only 9 out of the 47 grain elevators in the metropolitan area of Chicago could be reached by barges brought in on the Sag channel, the grain producing area tributary to a movement by water alone to Chicago amounts to practically nothing, and the terminal costs of transfer from rail to barge or barge to rail are heavy. There will be no southbound movement of grain, either domestic or export, by water from Chicago. Grain is produced west of Chicago and southbound traffic will move on the Mississippi from Minneapolis or other points. As regards possible movement of export grain eastbound from Chicago, the brief states:

"The predictions of large grain movement by water for export from Chicago are based in part on the assumption that the St. Lawrence waterway will be completed and that ocean ships will operate into the harbor of Chicago, taking grain from this port to Europe. In our opinion, the opening of the St. Lawrence waterway will not cause the movement of grain from Chicago, because ocean ships carrying grain to Europe

would dock at Duluth, which is closer to the grain producing center of the United States than is Chicago and no further from Europe."

The statement also points out the present difficulties restricting the export of American grain. The estimated coal movement of 1,500,000 tons annually will be materially restricted, the railways state, by the cost of rail movement from mine to waterway, cost of trans-shipment from rail to barge, cost of trans-shipment again at terminal from barge to rail or truck, and cost of final movement. In fact, the Harbor Plan of Chicago traffic survey states that: "The completion of the Illinois Waterway will have some effect upon the movement of coal into the Chicago region by water, but only to a limited degree, as most of the important coal deposits in Illinois are some distance from water and a short rail haul from mine to water-front will be required."

No Lumber Will Be Shipped

As to the annual traffic of lumber, estimated at 1,000,000 tons, the railway statement finds:

No lumber will be shipped on this waterway. We base this assertion on the following facts. There are two localities from which lumber moving into Chicago by water might come. One is from the south via the Mississippi River; the other is from the north via the Great Lakes. In 1929 the Federal Barge Line handled 523 tons of lumber over the line between St. Louis and New Orleans as compared with the total tonnage of 1,292,876 tons. If lumber does not move on the Mississippi River to St. Louis, we are certain that it would not move from the same locality to Chicago.

In 1930, 571 cars of lumber were shipped all rail via four railroads to the Chicago district from mills in Wisconsin and the upper peninsula of Michigan having dock loading facilities. Of these, 103 cars were for consumption in the Chicago district by industries located on water, and these shipments therefore could have moved by water. During the year 1930 there was no movement of lumber via Lake Michigan to Chicago.

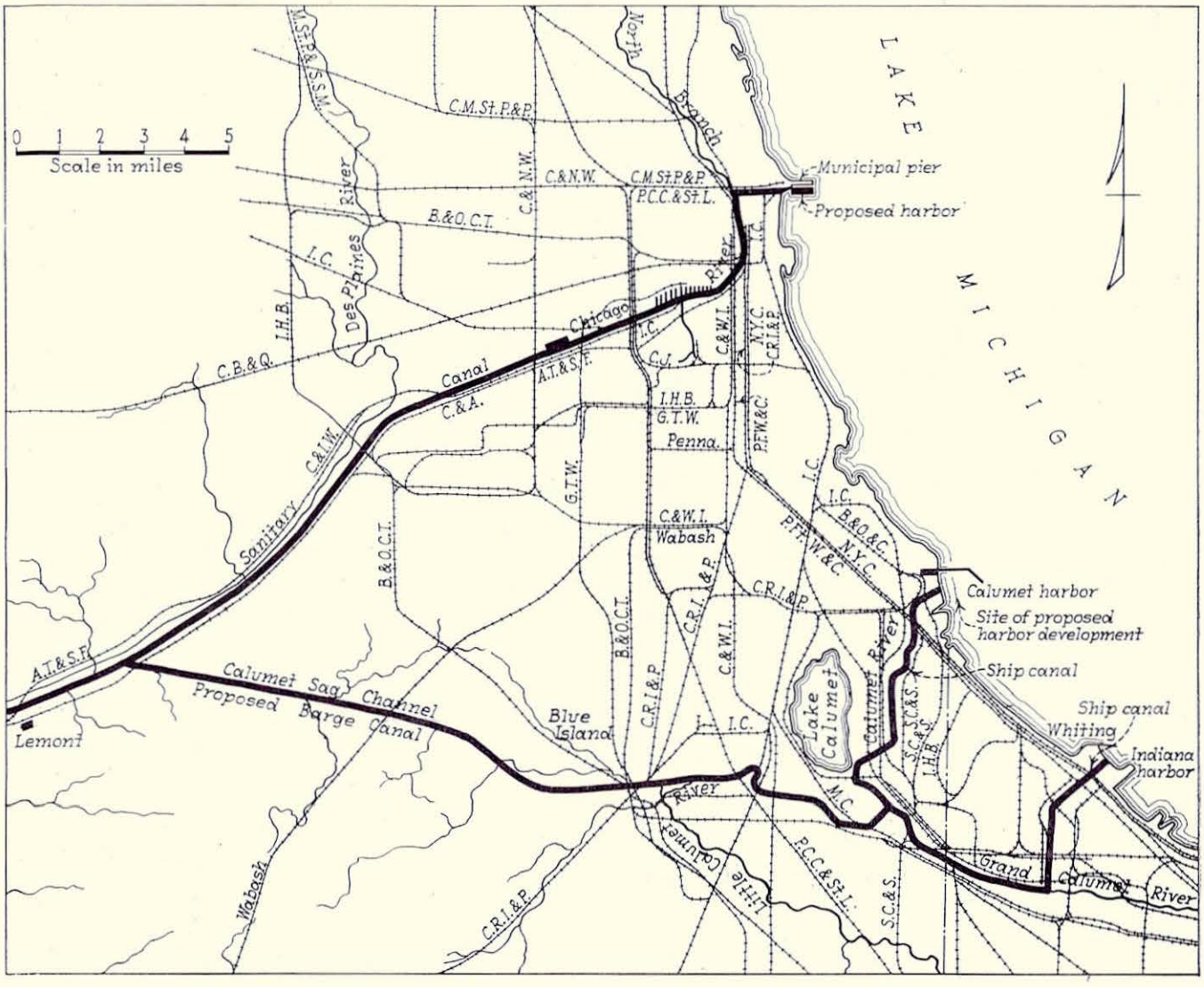
After discussing in similar detail the probable movement of iron and steel and of general cargo, the conclusion is reached that:

As shown by the foregoing analysis of the traffic which will move on this waterway, the figure of 7,515,000 tons is excessive. This amount of traffic which would be handled into and out of Chicago by the Sanitary canal and the Chicago river, with perhaps some movement over the Sag channel in its present condition, would not be increased appreciably by the enlargement of the Sag channel. When this Board makes a careful study of the traffic possibilities of inland waterway movement into and out of Chicago, it will undoubtedly find that the enlargement of the Sag channel will be a pure waste of money as far as the general public is concerned.

Analysis of the Cost

Probably the outstanding section of the railways' statement is the analysis of the probable costs and of the traffic necessary to justify construction of this project.

"In considering this question as to how much traffic will be required," the brief states, "two factors must be



The Proposed Waterway in its Relation to the Railways in the Chicago Terminal Area

taken into consideration. First, what will the enlargement of the channel, the construction of the harbor and the deepening and widening of the rivers cost? Second, how many tons of traffic must be moved by water to justify this expenditure?"

In determining the cost, the entire project of the waterway from the Sanitary canal to Lake Michigan, including the improvement of Lake Calumet, must be considered as one project. This cost will be as follows:

For construction work by the government on the waterways exclusive of the improvement of Lake Calumet, $55,265,000.

Improvement of south one-third of Lake Calumet so that boats can operate therein, $9,317,000.

Construction of movable railroad bridges over the Calumet, Little Calumet and Grand Calumet rivers and the Indiana Harbor canal, at present elevation of tracks, but with 200-foot horizontal clearance and fixed bridges over the Calumet-Sag channel with 25-foot vertical and 200-foot horizontal clearances, $43,138,000.

Highway bridges with specifications of the same character as the railroad bridges above described, $17,700,000.

The costs, therefore, which on this basis would be occasioned by the improvement, would be $125,420,000. The question now arises as to how much traffic should be transported on this waterway to justify such an expenditure.

Basis for Assumptions

The report of the Board of Engineers stated that the anticipated total traffic on that portion of the Lakes-to-the-Gulf waterway which lies between the Mississippi river and Lake Michigan would be 7,515,000 tons per year. In previous calculations made by the district engineer he estimated that the construction of the Lakes-to-the-Mississippi waterway would result in a total saving of $3,810,000 per year, or a saving equivalent to approximately 50 cents per ton for all traffic moving on the waterway.

In that report, the district engineer discussed the principles to be applied in determining the amount of money which could justifiably be spent to construct or improve an inland waterway. He reached the conclusion that it would be economically sound to capitalize 60 per cent of the total anticipated saving for the construction and maintenance of said waterway.

Without admitting the correctness of the assumption and conclusions of the district engineer, but contending that both the anticipated traffic and the estimated saving per ton per year are high, we have applied his principles to the project under consideration. We respectfully contend that applying said principles, in order to justify economically the expenditure of the sum of $125,420,000, the traffic which should move annually on the proposed waterway should exceed 16,720,000 tons in addition to the 7,515,000 tons which the district engineer anticipated would move on the entire waterway between Lake Michigan and the Mississippi.

This figure of 16,720,000 tons is arrived at by dividing the sum of $125,420,000 by the capitalized value (based on 4 per cent) of 60 per cent of the savings of 50 cents per ton, or by $7.50. Adding the 7,515,000 tons, which have already been capitalized in the Illinois Waterway project, and 2,000,000 tons of which, according to the Harbor Plan of Chicago, can move over the Sag channel in its present condition, to the 16,720,000 tons required to justify the construction of the present project, we have a total of 24,235,000 tons, which represents the total tonnage which should move via the route of the original Illinois Waterway between Lake Michigan and the Mississippi and the project here under consideration.

Must Allow for Cost of Operation

The figure of 16,720,000 tons does not include tonnage to care for the capitalization of the cost of maintaining and operating the new channel, lock and bridges for the project. In order to estimate accurately the amount of tonnage which should move, there should be added to 16,720,000 tons per annum a further annual movement to take care of the additional sum representing the capitalization of maintenance and operation charges on the project.

Assuming an annual movement of 20,000,000 tons on the proposed waterway and that each movement of loaded barges would be a movement of 2,000 tons, it would mean 37 loaded movements of barges a day. This is figured on the basis of nine month navigation. In addition, there would be the movement of empty barges and work equipment, which has not been taken into consideration. The figure of 2,000 tons per movement is also the maximum. In other words, if enough traffic moves on this waterway to justify the expenditure, we must expect more than 80 movements of barges per day on the waterway project.

Interference with Rail Traffic

Each opening of a bridge closes a railroad track to traffic from three to 15 minutes. Ten to 12 minutes would seem to be a fair average. With 80 movements a day, the tracks over the waterway on each railroad would be closed to traffic a substantial part of the day. This would be, of course, a very serious obstruction to, and interference with, railroad traffic.

Although we do not believe that this amount of traffic will move, if the government initiates a project which will cost $125,420,000, the railroads must prepare for such a movement. Unless the railroad bridges then be raised in order to discount as far as possible the interference with land traffic, the railroads will find themselves in the position of having railroad bridges which cannot bear railroad traffic because they would be open a large part of the time to allow the passage of boats.

In our figure of $43,138,000 for bridge reconstruction costs we did not include the cost of providing 25-foot vertical clearance of any bridges except those over the Sag channel, but it would be necessary to provide 25-foot vertical clearances of all railroad bridges, fixed and moveable, over the entire project.

In other words, to justify the expenditure of $125,420,000, so much traffic must be developed that it would be impossible for the railroads to operate over the waterway without providing a vertical clearance of all bridges, even the moveable bridges when closed, of at least 25 feet. The reason is that the land traffic over the railroad bridges is very heavy—heavier than the waterway traffic could be under any possibility.

The estimated traffic over the bridges of the railroad companies in question amounts to 213,000,000 tons per year. Altogether, about 1,850 train movements per day are involved. The movement of 20,000,000 tons of what the waterway advocates claim is slow-moving, low-value tonnage should not be allowed to seriously interfere with the movement of 213,000,000 tons of freight per year and of 1,850 trains per day.

The Need for Greater Expenditures

The movement of this annual traffic of 213,000,000 tons of freight and the number of train movements per year involves the careful dispatching of trains and operation of the railroads. Hindrance to this operation must be minimized as far as possible. Freight cannot be moved at reasonable rates unless these operating conditions are good. Through the expenditure of many millions of dollars, the railroads have been brought to their present efficiency, and the construction of this waterway should not be allowed, in the public interest to unreasonably hinder the continued fast and economical movement of so important a volume of land traffic. It is essential, therefore, that when the vertical clearance of the bridges is raised to 25 feet, the approaches also be raised to give substantially the same operating conditions as exist on the railroads today. Railroad facilities which are located adjacent to the tracks must be adjusted, and the total cost of adjusting railroad facilities attributable to the construction of these waterways and the providing of new bridges with 200-foot horizontal clearances and 25-foot vertical clearances is $117,084,000. This figure does not include the costs of changing industrial plants.

In the vicinity of the waterway under consideration, there is a veritable network of railway tracks, 35 railroad bridges in all being involved. The raising of the bridges requires the reconstruction of practically all the railroad lines in the vicinity of the waterway. The change in the elevation of one railroad track necessitates an adjustment of other railroad tracks. These figures are submitted as an approximate estimate of the cost after a careful consideration of the matter by the railroad engineering staffs.

Additional Operating Costs

The expenditure of $117,084,000 does not include the total expenditure required on account of the construction of the proposed waterway and the reconstruction of bridges and other facilities. The new structures will involve additional operating costs for the railroad properties due, among other things, to additional length of bridges over the proposed water-

(Continued on page 757)

Railway Business Association Met in Chicago

Adopted resolutions expressing confidence in future because of railway unity and constructive suggestions of Interstate Commerce Commission— Paul Shoup discussed "Railways as Spenders"

RESOLUTIONS expressing confidence in the future because of the unity shown by the railways in presenting their recent rate case to the Interstate Commerce Commission and the constructive suggestions made by the commission in its decision in that case, were adopted by the Railway Business Association at its meeting in Chicago on November 4. Other resolutions adopted advocated allowing the railways to operate ships and opposed policies designed to increase government interference with business and especially those increasing the danger of government ownership of the railways.

Following a meeting of the general executive committee, Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Company, spoke on manufacturing in railway shops. Frank W. Noxon, secretary of the association, spoke on railway business revivalists. Officers for the ensuing year were then elected, Alba B. Johnson being re-elected president of the association for the fourteenth time. Secretary Frank W. Noxon and Treasurer P. Harvey Middleton were likewise re-elected. Three new vice-presidents were elected, these being C. R. Robinson, vice-president of the Inland Steel Company, Chicago; George H. Houston, president of the Baldwin Locomotive Works, Philadelphia, Pa.; and George W. Struble, vice-president of the Bethlehem Steel Company, Bethlehem, Pa. The following vice-presidents were re-elected: J. W. Bettendorf, president of the Bettendorf Company, Bettendorf, Ia.; G. P. Baldwin, vice-president of the General Electric Company, New York; George E. Scott, president of the American Steel Foundries, Chicago; and James B. Strong, president of the Ramapo Ajax Corporation, New York.

At the annual dinner of the association, which was attended by more than 1500 railway and railway supply officers, the address of welcome made by Col. Robert Isham Randolph, president of the Chicago Association of Commerce, was followed by addresses by Paul Shoup, president of the Southern Pacific, on Railroads as Spenders, by Thomas F. Woodlock, contributing editor of the Wall Street Journal, on Ninety-Seven Varieties of Star Spangled Communism, and by George E. Vincent, ex-president of the Rockefeller Foundation, on the subject, As Others See Us.

Resolutions

The following resolutions were adopted by the Railway Business Association:

I

Unemployment Relief

We hail with the deepest gratification the unparalleled spectacle of a great nation's industrial, commercial, financial and professional leaders laboring together on what they have made the task of first importance—the relief of distress due to unemployment. Our members, engaged in many lines, are active, many of them prominent, in their trade or local groups. No probable improvement in business can prevent very wide-spread need during the impending winter. The certainty that such need will be met systematically, intelligently and generously is a justification for democracy and an occasion for thanksgiving to the Author of Mercy.

II

Railway Unity

We congratulate the railways upon their achievement of unity in getting the credit problem before the Interstate Commerce Commission. Competition amongst railways, upon which the public insists, and competition from highways and waterways, affecting the several rail systems variously, raised formidable obstacles to national railway solidarity on the common front. As a climax to several years' effort for inter-system co-operation, territorial and other special interests were subordinated by Eastern, Western and Southern railways in a nation-wide freight-rate proceeding. This was an event of which the salutary consequences promise to extend beyond the emergency of the moment to a permanent stabilization of railway credit, of maintenance and of progress in plant. Whatever far-reaching opportunities for self-help the regulatory authority may prove to have offered these carriers in the decision of October 16, 1931, or may hereafter offer them, such remedial prescriptions not only are the result of harmony amongst railways, but have the assurance of an effective cure in the continuance and further development of their joint activity. In 1917, the railways were not permitted to show whether or not they could contribute as their share in winning the war, a unity affording the service benefits of a single system. The government seized the properties. Now we are trying to win the peace and prevent another such seizure. The railroads' present course gives us confidence that they will successfully blend traffic competition and rivalry in progress for economy with common action in public relations.

III

The New Regulatory Program

Investors are justified in regarding parts of the decision of the Interstate Commerce Commission in the 15 per cent case as reason to hope for the railways' financial future. Initiative in the modification of rates to correct insufficiency of railway income rests by law upon the commission. The railways had to take over that function. Unaware what form of remedy might seem good to the regulators, the executives filed such a proposal as they could agree upon in the haste of a crisis. Legally, and in a democracy imperatively, all who appeared were heard—an unprecedented number due to the national and all-inclusive nature of the proceeding. Under the circumstances, the commission made all possible speed. Having rejected the application in the form as presented, they proceeded at last to discharge their statutory initiative. Upon the emergency pooling plan, which is still to be adjudicated, we refrain from comment. The commission indicated permanent remedies They invited the railways to explore the whole rate structure, bringing in tariffs calculated to avoid diversion of traffic and to increase revenue. They promised to scrutinize requests for suspensions and to expedite suspension proceedings, if any. No time limit was placed on adjustments so to be sanctioned. The commission on the contrary declared that "earnings may

properly be permitted to rise above normal in times of prosperity." Nor did they stop with rates. They threw their powerful influence behind the railways' efforts for federal and state equalization of competitive opportunity between the railways and other transport forms. They reiterated the demand for repeal of the income-recapture provision in the Transportation Act. They challenged the propriety of the large share of cost borne by the railways in compulsory non-revenue improvements. These features make the declaration the most constructive document ever issued by the commission. Fortunately the railway unity which elicited such a program is here to embrace and carry it through. The stage is set for a progressive and permanent financial rehabilitation of our railways as a whole.

IV

Shippers and Railway Revenue

More earnestly than heretofore we urge upon shippers in dealing with rate proposals to regard as paramount the financial restoration that the railways require if they are to go on giving service up to the new American standard. In a situation changed and still changing because of new transport competition and other factors, compensation for revenue lost in one direction must be found in another. An increase in freight cost is inevitable on a large part of the remaining rail traffic. This standpoint underlay the acquiescence or silence of many associations and establishments throughout the 15 per cent case. This showed not only public spirit but far-sighted unselfishness. A wider adoption of that view will do much to underwrite the railway income program essential to continuance of superservice by rail.

V

Railway Legislation

We oppose every measure designed to further the government ownership or operation of railways. We, therefore resist every proposal based upon the assertion that railway income is too high and intended to reduce it, thus forcing deterioration of service, the pretext for an experiment in federal control. We urge that when amendment of the rate-making provisions is timely, the recapture clause shall be repealed. We renew our protest against rate-making by Congress or legislatures.

VI

Federal Barge Lines

Congress should so amend the Dennison Act as to require auction sale of the federal barge lines within two years. The Act authorizes the Secretary of War to dispose of either the Warrior river or the Mississippi unit when specified conditions are complete. The Inland Waterways Corporation now publishes operating and financial statistics for the whole system, not by units. The Secretary of War should immediately instruct that agency to keep and publish such figures by units as defined in the Act, so that the public may observe whether the statutory conditions for abandonment are met and whether the Act should be amended. Congress should repeal the exclusion of railway companies as bidders for federal barge property.

VII

Transportation by Highway

We urge Congress, through restrictions upon interstate traffic by motor buses and trucks, to bring about as nearly as possible equality of opportunity for the railways in competition with highway carriers. We recommend a federal provision that will apply to motor traffic crossing state boundaries the restrictions which the states apply to similar traffic within their borders. We welcome as steps generally in the right direction the new conditions adopted during 1931 by many states affecting highway traffic. This important progress should be carried further by the state legislatures convening in 1932.

VIII

Coastwise and Intercoastal Ships

Coastwise and intercoastal waterway rates and service should be placed under federal regulation by the same agency that controls rates and service of railways with which such ships compete. The railways should be authorized to operate ships.

IX

Communist Power Projects

We pledge further effort for the sale or lease of the Muscle Shoals power and chemical plants. The compromise proposals of the Muscle Shoals Commission, representing Alabama, Tennessee, organized farmers and the Army, aim at production of fertilizer. This would invade a citizen industry without warrant in which stocks are in surplus and prices falling. It forecasts solvency for the lessee on no other basis than that of federal current served to him at a rate below power-production cost. Dismissing fertilizer, what is left is a scheme, with its nucleus in Muscle Shoals and transmission lines extending thence, to cover the country with communist production and transmission of current, sold on preferential terms to areas tempted by such inducement to communize local distribution. We oppose this program on principle and also because of our group interest. If the communists take power, they will take railways next. Thousands of business men who abominate communism and would deplore it in their communities are represented at Washington by men who vote communist on every roll-call in Congress. This will go on until such business men impress their sentiments upon senators and representatives. Protection of the public interest should be sought, not in government ownership and operation, but in progressive regulation.

X

Government In Business

We commend the action of the United States Chamber of Commerce in launching a survey of government competition with citizens in business. An enumeration of examples will surprise the country, disclosing that many such encroachments are unnecessary, wasteful, mischievous and tending to foster communist zeal. Manufacturers, construction contractors and others have long protested. We hope this survey will bring them ammunition, allies and courage.

XI

Federal Taxes

We urge upon the Bureau of the Budget and upon Congress that so far as possible the impending increase in taxes shall be moderated through reduction in expenses and through slowing down of debt extinction. In itself such a course will assist business recovery, besides setting a wholesome example to states, counties and cities.

XII

The George Washington Bi-Centennial

We endorse the 1932 celebration of George Washington's two hundredth birthday anniversary. We note with satisfaction the imagination and energy with which the federal Bi-Centennial Commission is planning and organizing the nation-wide observance.

Railway Economy

By Frank W. Noxon

Frank W. Noxon, in his talk on Railway Business Revivalists, demonstrated the increasing economy of railway operation by citing examples of operating costs, fuel economy and investment for economy. He spoke in part as follows:

In a recent essay, Professor Ralph C. Hon of Southwestern University, Memphis, Tenn., discussed "Current Railway Problems." The author sympathetically and I think intelligently reviewed the old and new difficulties of the railways. He said, "The responsibility is on the railroads to promote every possible economy and improve efficiency to the highest possible degree. Tremendous progress has been made along these lines within the last eight years. This improvement depends upon the efforts of the railway equipment and supply manufacturers to furnish better equipment and improved devices of all kinds; the exercise of initiative, intelligence and energy on the part of railway officers;

and the co-operation of shippers and all classes of railway employees. The lack of balance that has existed in the practices of the various roads should be corrected. Though a few lines enjoy reputations for a high degree of excellence in all operations, and a few give evidence of arrested development, the typical carrier is probably among the leaders in one or more phases of work but decidedly inferior in other respects in comparison with what other roads are doing."

Professor Hon's general conclusion on this point seems to be borne out by the statistics. Ten years ago the spread was wide between the most and the least efficient. In that decade the improvement per cent also varies greatly. Individual roads, too, have advanced faster in one department than another.

There are 51 roads whose gross earnings were $25,000,000 or more in 1920. The comparison is between 1920, the year when the railways were recaptured by their owners, and 1930, the latest statistical year. During the decade some of these 1920 lines have become parts of other systems, but their operations are still reported separately. One line, the Long Island, due to well-known conditions, is so exceptional that its inclusion would obscure the representative tendency, hence it is omitted. Fifty roads, therefore, stand in the table unless otherwise stated.

The final test is operating expenses per unit of work performed. In view of the inescapable increase of unit cost in passenger service due to sudden and serious diversion of passenger traffic to the highway, the opportunity for economy has been greater and clearer on the freight side. Of these 46 roads reporting freight operating expenses per 1,000 ton-miles, the blue ribbon was won in 1920 at $6.04, while the road of highest cost registered $22.71, a spread of 276 per cent. In 1930, the range was from $3.60 up to $12.83, a variation of 256.4 per cent. For the decade the largest reduction was 53.6 per cent, the smallest 6 per cent.

General Efficiency

So much for progress in economy by dollars. What test will show the general efficiency upon which dollar economy hangs? Some years ago, I discussed such tests with Interstate Commerce Commissioner Frank McManamy, who has the background of practical experience as a railway employee and during federal control as a government officer. What I particularly sought was something which would reflect most fully the effect of investment on mechanical progress. On Mr. McManamy's advice, our consultation resulted in the selection of a composite picture of all progress—gross ton-miles per train-hour. In 1920, the 50 roads ranged in this respect from 10,303 to 21,604. The highest was 109.7 per cent above the lowest. In 1930, the spread was from 15,580 to 42,946, a difference of 175.6 per cent. As to percentage increase of 1930 over 1920, the largest advance was 147.4 per cent, the smallest 8 per cent.

Pass now to Professor Hon's emphasis on the road that excels more in one department than another. In the same visit with Commissioner McManamy I inquired for a specific test. He suggested, as one likely to disclose investment in mechanical progress, the consumption of fuel—pounds of coal per thousand gross ton-miles. Where fuels other than coal are used, these are reduced to B.t.u.'s and so to the equivalent of tons. One system, the Northern Pacific, since 1920 has adopted lignite, which is bulkier but cheaper than coal. That system is, therefore, omitted. Another line, on the face of the figures, led the entire 50 in 1920, with 89, as against the nearest mark of 155, and in 1930 had gone back to 113, an apparent relapse of 27 per cent. In view of the relatively good progress shown by this road by the general tests previously set forth, I have inquired whether this is correct but the reply has not yet come. Meantime confusion will be avoided by omitting from the fuel test this road, as well as the Northern Pacific and comparing only 48 roads. In 1920, the lowest of the 48 was 155, the highest 282, a margin of 81 per cent. In 1930, the best mark was 95, the other extreme, 203, an excess of 113.7 per cent. The decrease, that is to say improvement, in 1930 as compared with 1920, ranges from 49.3 per cent to 11.4 per cent.

Investment in Progress for Economy

The railway business revivalist encounters one different form of sales resistance. The poor railroad which he offers to enrich replies that its poverty prevents. It is poor because it is poor. That is a very real obstacle—the problem of credit. Little can be learned by comparing one road with another as to investment per mile of line at the beginning of a period. Circumstances and requirements vary widely. More significance may be seen in the increase per cent in the decade. In that respect the highest was 98.9 per cent, the lowest 6.8 per cent. Still more important is a comparison of the roads within groups. For instance, among the 15 roads which led the procession in 1920 as to investment per mile of line, the increase per cent in 1930 straggled all the way from 58.8 down to 7.1. Simplest of all, and no doubt actually the most significant, is the number of dollars invested per mile of line in the 10 years, regardless of the percentage relation to the 1920 figure. The question is one of economy—of gross earnings saved for net. Economy may be eaten up in compulsory waste. Gross may be depressed through rate adjustments or traffic slump or competition. But whatever the ultimate condition created by all the figures, it is safe to conclude that in that decade all the roads used their credit to the utmost in improving their properties for operating economy. All or nearly all would have invested more if they could have commanded the capital. The 15 roads which do the most freight work for the public (revenue ton-miles) compare thus: At the extremes were one road that invested $131,580 per mile of line and another $5,691—a spread of 2212 per cent. The average for the 15 roads was $44,854 and 8 systems were below the average. This comparison comes near measuring credit.

Railways Spend One-Sixth of Their Revenue for Supplies

By Paul Shoup

Paul Shoup, in speaking on Railways as Spenders, stated that of every six dollars taken in one dollar is spent for supplies. Among other expenditures he listed wages, taxes, interest and dividends. An abstract of his address follows:

Let us first take a look at this railroad business from the view point of how much more it means to the public in general, measured in the aggregate, than it does to the stockholders of the railroads. During the last several years of the supposed prosperous period, the railroad managements, out of each dollar taken in managed by dint of saving and scraping, to turn over

to the stockholders something more than six cents in the way of dividends. Yet this is hardly an accurate statement. For in reality, because of the extensions and additions and betterments to the plant, they borrowed substantially in the last 10 years, in addition to the earnings, the sum they paid out in dividends. But, in any event, the railroads have spent on their stockholders a sum hardly more than six cents out of each dollar taken in. They spent a little more on the people they borrowed money from, returning to them a little less than 10 cents as interest out of each dollar taken in as earnings. So, after the several million people who are interested in the property as stockholders and bondholders had received some 15 cents, there remains some 85 cents to be accounted for, and in addition the sum that I have referred to as having been added to the property independent of earnings, during the last 10 years. Of course, the payroll gets the larger part of the dollar from earnings. In 1916, it took around 41 cents out of the dollar, and in 1930, about 49 cents. As an employer, the railroads are, therefore, a liberal spender—something like $3,000,000,000 a year normally direct to men and women on the payroll. Now a good deal of spending, not always apparent to the public at large, is under way constantly on railroads. The freight movement over our railroads is equivalent to transporting 400,000 tons 1,000,000 miles each year. The passenger movement is equal to moving 3,500,000 cars 1,000 miles each year. This means wear and tear. So a railroad is in constant process of reconstruction. The ties used to maintain the tracks in proper condition in 1930 would make a trainload reaching from Chicago to New York and back. Each year the railroads have to take out of place enough rails which, on the basis of tonnage, would more than rebuild the entire New York Central System, or, if loaded on to cars, would form a continuous train over the Pennsylvania from Chicago to Philadelphia, and while I am advertising railroads, I might remark that the coal and oil consumed by the railroads of this country in 1930 would have filled a train stretching over the Overland route from Chicago to San Francisco.

For every $6 the railroads take in, they normally spend about $1 for supplies, that is, for supplies alone the railroads spent 2½ times as much as the stockholders get, and that $1,000,000,000 per year spent for supplies is a very active factor in the business life of the United States.

Taxes Are Large Expenditure

And then there comes the sad news in the way of taxes. The railroads—more or less unwillingly—are very liberal spenders in that respect. Out our way taxes have grown some 80 per cent in 10 years, and even in this year of depression 2 of the states that we traverse have found it necessary to increase the taxes of the railroads. The railroads spend with the tax collectors just about the same amount they are able to pay their stockholders. The taxes the railroads pay in one year would buy all the new locomotives that are needed in a period of five years. These taxes would pay the out-of-pocket expense of operating three-fourths of the passenger trains in the United States.

So we find that the major interest in railroad revenue does not accrue to stockholders or to bondholders, as to both goes only about one dollar out of every six dollars taken in, but to those who get the remaining five dollars. It means not only the five dollars, but, if there be confidence in the railroads and the outlook for their future reasonably assured, a very substantial additional sum to take care of progress, to make additions and betterments, and extensions, will also be expended. The major beneficiary as to expenditures is with others than stockholders or bondholders in the ratio of six to one.

In these days of necessarily restricted expenditures the people who have been accustomed to receiving the five or more dollars are feeling the pinch of the reduction in the revenue of the railroads in much greater volume than those who have been receiving the dollar of dividends and interest, though the latter may be suffering in as great or greater degree relatively. What I hope the people of the United States may understand is that a dollar taken out of the revenues of the railroads, as of 1930, means 15 cents, or thereabouts, lost to the stockholders and bondholders, and 85 cents lost to others interested.

At this time railroad expenditures necessarily have shrunken materially. They are taking in probably one-third less than they did at this time of the year in 1928. They have perhaps 66 or 67 cents to take care of their needs as against the dollars of three years ago. It is impossible to pay out the proportions I have named, and include them in 66 or 67 cents, when the sum total makes $1. Is it not plain then that the railroad problem from the spending point of view is of very general interest?

Manufacturing by Railways

By Samuel O. Dunn

Samuel O. Dunn contended that there can be no economic justification for manufacturing by railways unless it can be shown that they can manufacture cheaper than the manufacturers. His address in part follows:

In considering what I should say I have been more and more impressed with the analogy between the competition which the railways are receiving from carriers by highway and inland waterway, and the competition to which many of the railways themselves are subjecting manufacturers of equipment and supplies.

The objections to the present competition of highway and waterway carriers with the railways are that they are subsidized and not regulated. If a railway manufactures things at higher total costs than those at which they can be bought, it, in effect, subsidizes its manufacturing operations from its transportation revenues.

But what is "total cost"? This is a question in controversy between the railways and other carriers. The railways claim that, regardless of who pays them, the total costs of other carriers include all factors that enter into railroad costs—interest upon investment, expenditures for maintenance, depreciation, taxes, and so on, chargeable to the highway or waterway, as well as to the truck or boat that operates upon it. That, in my opinion, is economically sound, although it is a principle that is controverted by spokesmen of highway and waterway transportation and actual total costs of highway and water transportation are difficult to obtain. If the principle is economically sound as applied to transportation, then it is equally sound as applied to manufacturing, and a railway in estimating its actual or prospective costs of manufacturing should include practically every item that a manufacturer must include.

There can be no economic justification for the development of highway or waterway transportation in competition with the railways unless it can be demonstrated, not merely that, allowing for differences in

quality of service, a waterway or highway carrier can transport as cheaply as the railways, but that it can transport more cheaply. We already have railroad capacity exceeding the demands upon it, and there can be no economic justification for investing vast amounts in other means of transportation unless it can be shown that they can serve the public better at the same cost as the railroads, or as well at a lower cost.

Obviously, the same principle applies to manufacturing. We have a railway equipment and supply industry with a capacity in excess of the demands upon it, and there can be no economic justification for manufacturing by railroads unless, allowing for differences in quality, railroad managements can show that they can manufacture cheaper than the manufacturers.

Manufacturing by Manufacturers Regulated

The railways justly complain that their rates and service are regulated while those of their competitors are not. It is also true, however, in a sense, that manufacturing by manufacturers is regulated while manufacturing by railroads is not. Manufacturing by manufacturers is regulated as to quality and prices by competition between them. A railroad manufactures only for itself, and, therefore, its manufacturing is not regulated by competition.

It is the duty of their managements to conduct the railways as efficiently and economically as practicable, and nobody can justly complain if they make every effort to do so. It cannot, however, be safely assumed that a railroad, which manufactures only for itself, can produce as good quality at as low a cost as a manufacturer who produces for numerous railroads and must sell to them in competition with other manufacturers. Therefore, it is to the interest of the railways that their managements should afford every opportunity for comparison of their accounting, the quality of their products and their costs, with those of manufacturers. Only by such comparisons can any railway management make sure whether it can or cannot manufacture what it needs as economically as it can buy it.

Most Economies a Result of Improved Equipment

There is another point of the utmost importance to be considered in this connection. Most large economies in railway operation have been accomplished largely or mainly by the use of improved equipment and materials. Most of the improvements in equipment and materials have originated with the manufacturers. This is natural, because a railroad's main business is that of transportation, while a manufacturer's sole business is that of manufacturing. There never was a time when there was more vital need for reductions in costs of railway operation than now, and, therefore, never a time when the railways could so ill afford to discourage or hinder improvements by manufacturers in equipment and materials.

For the railroads to enlarge their manufacturing activities solely to reduce present nominal, or even real, costs of equipment and supplies would be a short-sighted policy. A more important problem than that of merely reducing present costs is that of in much larger measure reducing future costs. Nobody claims that the railway equipment and supply manufacturing industry can be dispensed with, just as nobody claims that the railroads can be dispensed with. The railroads must rely upon the manufacturers in future, as in the past, for the bulk of their equipment and supplies and for most improvements in them, and for the railroads to engage so extensively in manufacturing as to discourage progress in the railway equipment and supply industry would be to save temporarily at the spigot and lose permanently at the bunghole.

The railroads for years have been, and still are, engaged in a great struggle to increase their earning capacity, and even protect their properties from confiscation. They need help from other business interests in carrying on this struggle. Business interests which obviously will help themselves by helping the railways are the most likely to give the railroads energetic and effective assistance in this struggle. The business interests that are most likely to help themselves by helping the railroads are those for whom the railroads afford a market. When the railroads engage in manufacturing for themselves they reduce the market of those who want to sell to them, and tend to alienate those who are most likely to give them effective assistance in carrying on their struggle for fair treatment by the national and state governments. Surely they should not adopt a policy that tends to weaken them in their struggle for self-preservation without making very sure that it has large compensating advantages.

Unquestionably railway managements not only should, but will adopt those policies which they believe will be best for the railroads, and, therefore, it is for the railway equipment and supply manufacturing industry, in its own interest, to spare no reasonable effort to convince the railroads that they should buy rather than manufacture.

Try to Make Present Railway Plant Obsolete

It is essential to the welfare of the railway equipment and supply manufacturing industry that it shall utilize in the best way it can all the brains available to enable it to offer better products to the railroads. The most effective thing that the manufacturers can do to hold and enlarge their market is to make every part of the present railroad plant obsolete by developing and offering for sale better equipment and materials than those now in use.

The experience of the railroads themselves shows, however, that when this has been done the task of conducting a business successfully has only been begun. The railroads, in spite of the improvements that have been made in their service, find it necessary to carry on constantly a campaign to educate the public, business men, regulating authorities and employees for the purpose of securing fair treatment in order that they may get the traffic that they are best fitted to handle and remunerative rates for handling it.

Manufacturers Must "Sell" Themselves

Manufacturers must recognize the fact that as the railroads must "sell" themselves and their service better to the public, so the manufacturers must "sell" themselves and their products better to the railways. You and I have no doubt as to the intelligence and ability of railway officers. They are, however, very human and very busy, and those who are very human and very busy, however intelligent and able, are always likely to make mistakes. If the railways are making the mistake of increasing their manufacturing operations more than is economically justifiable from their own standpoint, it is part of the regular business of the manufacturers to prove this to them. The railways find it necessary constantly to carry on educational work to protect themselves from unfair competition. The manufacturers must do the same thing for the same purpose.

The railroad problem has been much discussed, but it

has not been solved. This is the best evidence that the railroads must redouble their efforts to effect economies, improve service and sell themselves and their service to the public. The question of manufacturing by railways also has been much discussed, but has not been settled, and this is the best evidence that manufacturers must redouble their efforts to increase their efficiency as designers, producers and salesmen. The railroads are in serious trouble; but they are still here, they are an indispensable agency of commerce, and they are going to stay in business. The market for railway equipment and supplies fluctuates widely, but there is still a market for them and there is going to continue to be. The railroads in the future will have less need than in the past for facilities to increase their capacity, but more pressing need than ever for products that will enable them to reduce the cost of transportation and improve their service.

The railway equipment and supply industry should help the railroads in their struggle for fair regulation to protect and enlarge its market. It should employ the greatest enterprise and the best selling methods possible to enlarge and hold its market. It should put forth every reasonable effort to protect its market against the railroads themselves; but there is always going to be a large market for railway equipment and supplies, and the manufacturers who show the greatest enterprise and use the best selling methods are going to be the most successful, as they have in the past, in doing business in the railroad market.

Growth of Practical Communism in America

By Thomas F. Woodlock

Mr. Woodlock stated that the government is now competing with its own citizens in 97 separate activities, the two most important being the supply of electric power and inland waterway transport. Public ownership advocates, he said, are not motivated by a desire to save money or improve service but rather by the desire to prevent any private profits being made from the public service.

There are, he said, three important instances where government competition with its citizens in the power industry is plainly threatened. These are Muscle Shoals, Boulder Dam and St. Lawrence. We all know the history of Muscle Shoals. It originally was intended as a war measure for the production of nitrate as a base for explosives. The war being ended we were next told that it was a great help to the farmer in the production of fertilizers, and we still hear a great deal of talk about that. All this is pure humbug.

The real purpose of those who are advocating development by the government of the Muscle Shoals situation is the production and sale of electric current in competition with private plants.

With respect to the St. Lawrence waterway, and the development of power at the International Rapids, the case is slightly different. The St. Lawrence Power Authority created by the legislature is limited in a most important way as to securing the money necessary for the development. It has no direct recourse to the general tax budget for either capital or operating funds. It must secure the funds that it needs for capital investment from the investment market on the strength of the contracts that it is to make for the sale of power, and it must rely upon those contracts for the money that it needs to operate.

We have in this country probably some two thousand public municipal operations in the supply of power. A small group of these, possibly 1 per cent or at the most 2 per cent, supply current on terms which, all things considered, are reasonably economical.

A study of these few instances almost invariably discloses two things. One is that the actual management of the municipal plant is in fact largely divorced from municipal politics, and has enjoyed a certain continuity enabling what we may call in general the application of reasonable businesslike methods. The other is that, with extremely few exceptions, even these instances show in greater or less degree a recourse to taxes for at least a portion of operating costs.

It is safe to say that of all the municipal operations being conducted in the United States today only a small group can be shown to be as efficient as the better class of privately operated plants. If there is one thing badly needed, it is strict uniform accounting.

Points Out Waterways Expense

The expenditures on the Mississippi, Ohio and Warrior waterways for purely navigation purposes, exclusive of flood control, have reached the enormous sum of half a billion dollars provided from the public funds. Maintenance expenses of these channels, also exclusive of flood control, total, in round figures, $8,500,000 yearly.

At the end of 1930 the Inland Waterways Corp. had received of public moneys and public property a total of almost $24,500,000. On December 31 last its operations, which by that time had covered a period of six years, approximately, had resulted in a final deficit in profit and loss account of $443,412. During those six years it had had the benefit of receipts of interest on public moneys unexpended for operating plant of more than $248,000. Its operations of plant, therefore, in the six years, taken by themselves, showed an operating loss of close to $700,000. Not a cent was earned for return on the public's money invested in the enterprise.

Inland Waterways Corp.'s Questionable Practices

In addition the Inland Waterways Corp. has been accused upon sworn testimony before the Interstate Commerce Commission of making secret contract rates on freight, in competition with private agencies, and of granting storage at rates wholly inadequate for the service.

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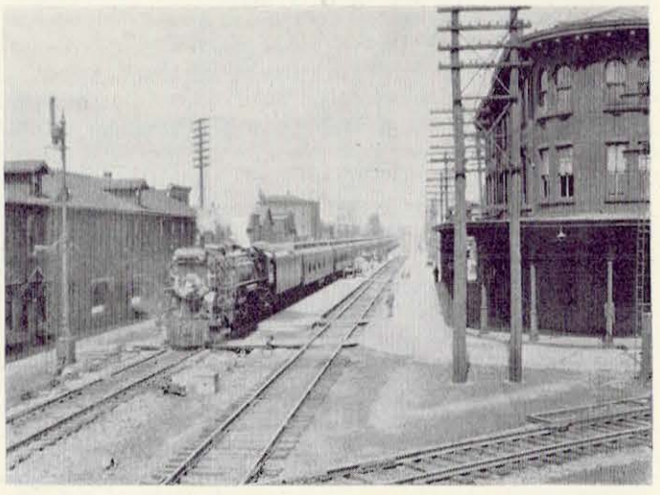


A Big Four Train at Crestline, Ohio

Old Trails Now Steel Rails

Great Northern and Western Pacific complete year's largest new line construction project

THE driving of a golden spike with a distinguished ancestry, culminated the ceremonies celebrating the completion of the year's most important project of new line construction, the extension connecting the Western Pacific and the Great Northern, at Bieber, Cal., on November 10. This line, comprising an extension of the Great Northern from Klamath Falls, Ore., to Bieber, and a similar extension of the Western Pacific from Keddie, Cal., to Bieber, connects the Great Northern and the Western Pacific systems, establishes a new through all-rail route between the Pacific Northwest and California and also provides a new route from eastern points to California by way of the Pacific Northwest.

The golden spike was driven by Arthur Curtiss James, who controls the Western Pacific and is also the largest individual stockholder in the Great Northern. The spike, which was on exhibition at San Francisco prior to the ceremonies, is distinguished in that its gold came from historic mines in the vicinity of Oroville, Cal., in the heart of the trails of '49. The gold in the spike was also a composite secured by the various processes by which the metal is obtained, including hydraulic mining, tunneling and dredging.

The celebration at Bieber was participated in by members of the boards of directors and principal officers of the Western Pacific, the Great Northern and other railways, as well as by citizens of California, Nevada, Utah, Colorado, Oregon, Washington, Idaho and other states and British Columbia. To provide transportation for those in attendance three special trains were operated from San Francisco, leaving at 8:30 p. m. on November 9. A train equipped with coaches was operated from Portola by way of Keddie to Bieber for the convenience of the people of that territory. Arrangements were made to accommodate contingents from Salt Lake City, Reno and other Nevada points. A train was also operated over the Great Northern from St. Paul for those from that point and east and for those departing from Spokane, Wishram, Tacoma, Portland, Bend and Klamath Falls.

The through line was opened for freight traffic following the driving of the golden spike. Through an arrangement with the Atchison, Topeka & Santa Fe, through rates, routes and service have been established via Stockton to and from points on the Santa Fe in California, Arizona and New Mexico. Through passenger service will be inaugurated over the new line about May 1, 1932, at which time the so-called Shasta arbitrary, an extra charge exacted for traveling via the northwest to and from California, will be abolished.

The Location of the Extension

Keddie, the southern terminus of the extension, lies in the Feather River canyon on the main San Francisco-Salt Lake line of the Western Pacific, 281 miles east of the western terminus. Klamath Falls, at the northern end, is the southern terminus of the Great Northern line through Central Oregon from a connection with its subsidiary, the Spokane, Portland & Seattle at Wishram, Ore., midway between Portland, Ore., and Spokane, Wash.

Much of the New Line Is of Scenic Beauty

The Western Pacific portion of the line is 112 miles in length; that of the Great Northern is 91 miles in length. The two railroads also have acquired and completed the construction of the McCloud Branch, 36 miles, extending from Lookout, Ore., to Hambone, where connection is made with the McCloud River railroad.

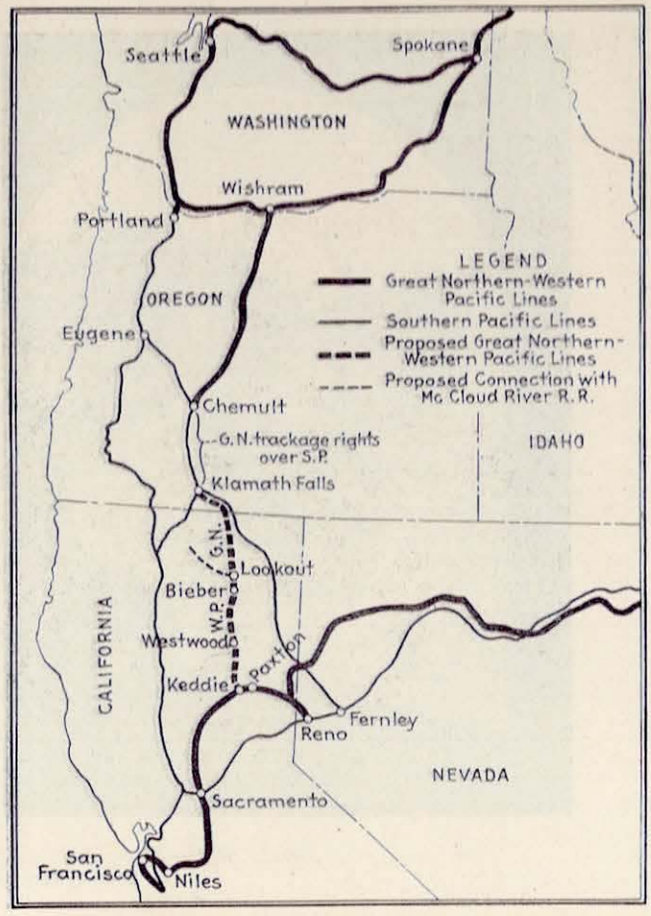
Potential Traffic

The new line opens up about 400,000 acres of agricultural land, of which about 150,000 acres are now under cultivation. Cattle and sheep are also grazed extensively in the territory adjacent to the line. It is estimated that the standing timber tributary to the new line comprises approximately 36,000,000,000 board feet. Large saw mills of Westwood will be served by the line, while the mill at McCloud will have an outlet for shipments east to Lookout Junction and thence over the new line.

Project Started in 1928

Application of the Western Pacific and the Great Northern for permission to construct their respective extensions, which have cost $14,500,000 were filed with the Interstate Commerce Commission on February 14, 1928.

Through their railroad commissions, ten states actively supported the applications. The decision of the Interstate Commerce Commission authorizing the two roads to construct the extensions was received on June 20, 1930. The roads shortly thereafter issued calls



Map Showing Construction Proposed and Which Is Now Completed

for bids and the first ground was broken on August 16, 1930, near Greenville, Cal.

The construction of the line involved many interesting problems. To provide room for the additional facilities at Keddie, for illustration, it was necessary to excavate approximately 500,000 cu. yd. of earth and rock from the mountain side. Nine tunnels were built in that portion of the line south of Bieber, eight of which were in the first 25 miles north of Keddie. Ten bridges were built, including one 900 ft. long over the Pit river and another 225 ft. high over Clear creek. At one point a cut was excavated to a depth of 118 ft. At another point a single shot of explosives, consisting of 50 tons of black powder and 2 tons of dynamite removed 115,000 cu. yd. of earth and rock from a point, eliminating the necessity for a tunnel. Of special interest is the construction of the Hollenbeck Loop or horse shoe in Wolf Creek canyon. This loop is approximately 2,700 ft. long and 400 ft. across the neck, and contains 240 degress of curvature. These and other engineering features of the new line will be described in detail in a further article that will appear in an early issue.

EMPLOYEES OF THE MISSOURI PACIFIC have voluntarily re-established a special fund to give relief this winter to unemployed fellow-workers. Last winter such a fund was established and $41,000 of the $50,000 raised was dispensed during January, February, March, April and May. The employees give one per cent of their wages to the special fund and a committee of employees investigates all applications for aid. Only employees of the railroad temporarily without employment will be assisted from the fund.

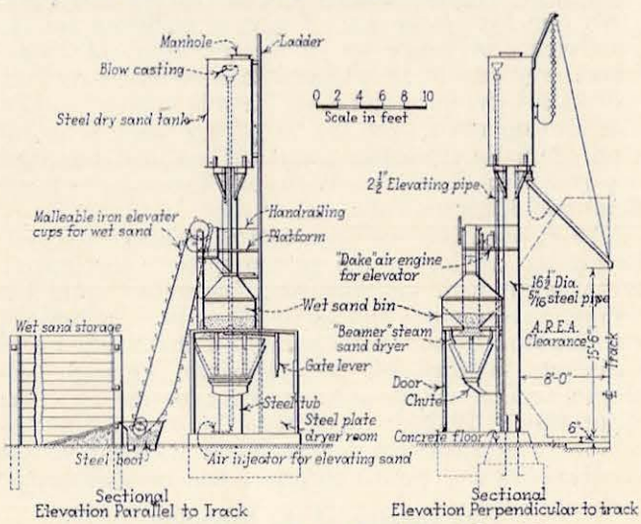
Small Sand Plant Provides Complete Handling

A CONSOLIDATED small capacity sand-handling plant, embodying facilities for the elevating, storing and drying of wet sand together with those for elevating and storing the dry sand for delivery to locomotives, has been developed by the Roberts & Schaefer Co., Chicago. This plant, which is known as the Ross consolidated sand plant, delivers dry sand to locomotives on one track through an improved moisture-proof undercut sand valve and telescoping spout from an overhead steel dry sand tank of either 5, 10 or 20 tons capacity. Dry sand is supplied to this tank by compressed air from a sand-elevating drum which receives dry sand as it falls from a Beamer steam sand dryer, to which the wet sand is delivered by means of a malleable iron bucket-type elevator at the rate of 15 tons per hour.

The elevator receives wet sand by wheelbarrow or shovel from a wet sand storage compartment of any desired size adjacent to the structure. The sand elevator is operated by a Dake air engine. Compressed air for operating this engine, as well as for elevating the dry sand, may be supplied by a locomotive.

The Beamer steam sand dryer has a drying capacity of 8 tons of dry sand each 24 hr. It is situated directly beneath a wet sand compartment having a capacity of three tons, so that at all times there is a considerable reserve of wet sand available for the drying unit. A vibrating screen, equipped with a Branford air vibrator, is provided between the dryer and the dry sand receptacle. The dry sand falls directly into an open steel tub or drum, from which it is elevated to the storage tank by a low pressure air line, the air inlet acting as an injector under a pressure of about 15 lb. per sq. in. A special chilled blow casting is provided at the end of the 2½-in. elevating pipe in the overhead bin.

The dry sand storage bin is mounted on a 16-in. steel pipe directly above the dry sand tub. The only foundation required for this installation is a small block of concrete underneath the dry sand storage tank and a concrete floor under the sand-drying house. With such a design, it is said that a plant of this nature may be constructed at any location and used as long as the demand for dry sand exists at that location, and then moved to another point without loss of any mechanical parts, the foundations only being sacrificed.



Sectional Elevations of the Consolidated Sand Plant

P. E. Crowley Resigns New York Central Presidency

Position tendered to Frederic E. Williamson, Burlington president, who expresses desire to accept

PATRICK E. CROWLEY, president of the New York Central since April, 1924, has resigned, effective January 1, 1932, and Frederic E. Williamson, president of the Chicago, Burlington & Quincy, has been tendered the position. Mr. Williamson has expressed his desire to accept, subject to release from his present position and formal action of the New York Central board of directors at its December meeting. Later reports indicated that Mr. Williamson would accept the New York Central offer, and that Ralph Budd, president of the Great Northern, which, with the Northern Pacific, controls the Burlington, would be elected to succeed Mr. Williamson at a meeting of the Burlington's board of directors on December 8.

Patrick E. Crowley

Frederic E. Williamson

The announcement of Mr. Crowley's retirement came in a statement which he made to the New York Central board of directors on November 11. "On January 1," Mr. Crowley's statement read, "I shall have completed 53 years of railroad service, 42 of which have been with the New York Central. I am in my sixty-eighth year and I have asked the executive committee to relieve me of the duties and burdens of the presidency as of January 1, 1932.

"The executive committee have asked me to continue in the service of the company in an advisory capacity, a suggestion which I have accepted with the greatest satisfaction.

"The executive committee have addressed themselves to the problem of my successor and advise me that they have tendered the presidency to Mr. Frederic E. Williamson, now president of the Burlington, but for 27 years in the service of this company. Subject to release from his present position and formal action of this board at its December meeting, Mr. Williamson has expressed his desire to accept."

Mr. Crowley, who succeeded the late A. H. Smith in the New York Central presidency, has been in railway service since he was 14 years old and in the employ of the New York Central since he was 25. He came up through the ranks. His first job on a railroad was as a messenger boy and his wages totaled $5 a month. When he reached the higher positions it was said of him that he still retained the friendships of those lower down in the ranks and that he had an unusual acquaintance personally with the men on the road. As a result he was generally regarded as a conspicuously successful executive in his relations with employees.

Patrick E. Crowley was born at Cattaraugus, N. Y., on August 25, 1864. While he was still in grammar school he secured a job as a messenger boy in a telegraph

office and worked after school hours. When he was 14, he took up the study of telegraphy and became an operator on the Erie. In August, 1885, he was made a train dispatcher, which position he held until February, 1889, when he became a train dispatcher on the New York Central & Hudson River. One year later, in May, 1890, he was made a chief train dispatcher and in August, 1891, he was promoted to trainmaster. He served as trainmaster until September 12, 1900, when he was made chief trainmaster. On August 24, 1901, he was appointed superintendent of the Pennsylvania division, which position he held until December 26, 1904, when he was appointed assistant general superintendent, with headquarters at Syracuse, N. Y. On March 1, 1907, he was promoted to assistant general manager with headquarters at Albany, N. Y., which position he held until April 15, 1912, when he was promoted to general manager, with headquarters at New York City.

On December 23, 1914, he was appointed assistant vice-president in charge of operation of the road now become the New York Central, and on January 1, 1915, became assistant vice-president in charge of transportation and equipment maintenance. He was elected vice-president in charge of operation on September 14, 1916, which position he held until his election as president and director in April, 1924, except for the federal control period, when he was federal manager, from June 10, 1918, to March 1, 1920.

Frederic E. Williamson has been president and chairman of the executive committee of the Burlington since January 1, 1929, when he succeeded Hale Holden upon the latter's election to the chairmanship of the Southern Pacific executive committee. He was born on June 14, 1876, at Norwalk, Ohio. He was graduated from Yale University in 1898 and immediately thereafter entered railway service as a clerk in the office of the superintendent of the New York Central & Hudson River (now the New York Central), at Albany, N. Y. For the following 12 years he had a varied operating experience on the New York Central as a clerk at Albany, as agent at Rome, N. Y., Utica and Troy, as chief clerk in the office of the superintendent of freight transportation at New York, as car accountant at New York, as assistant superintendent of the Harlem division and as superintendent of freight terminals at Albany.

On July 24, 1910, Mr. Williamson was further promoted to superintendent of the St. Lawrence division of the New York Central, with headquarters at Watertown, N. Y., and six years later he was transferred to the Hudson division, with headquarters at New York. In 1918 he was promoted to general superintendent of the New York Terminal district where he remained until July 1, 1921, when he was transferred, also as general superintendent, to the First district of the New York Central, with headquarters at Albany. He was transferred back to the New York Terminal district in May, 1924, and just a year later he was elected vice-president in charge of operation and maintenance of the Northern Pacific, with headquarters at St. Paul, Minn. On September 15, 1928, he took over the duties of executive vice-president of the Chicago, Burlington & Quincy and the Colorado & Southern, and on January 1 of the following year he became president and chairman of the executive committee of the Burlington and its affiliated companies, which position he now holds.

THE ANNUAL CONVENTION of the Veterans' Association of the Northern Pacific will be held at Minneapolis, Minn., on June 23-24. Between 400 and 500 veterans are expected to attend the meeting, which will include business sessions and entertainment features.

Cincinnati Terminal Service Hearing Concluded

CINCINNATI hearings in connection with the Interstate Commerce Commission's investigation of terminal services of Class I railroads—Part 2 of the general Ex Parte 104 inquiry into practices affecting operating revenues and expenses—were concluded on November 5 after sessions had extended over four hearing days in that city. Opening testimony of witnesses for the Southern Railway System, including initial cross-examination of G. H. Kerr, freight traffic manager at Cincinnati, by I.C.C. Attorney A. G. Hagerty was reported in the *Railway Age* of November 7.

Continuing his questioning of Mr. Kerr with respect to reciprocal switching charges, Mr. Hagerty asked whether such charges some of which are as low as $1.35 to $2.25 per car, should be increased. Mr. Kerr replied that, when all conditions are taken into consideration, the railroads probably would not do otherwise than "trade dollars." In reply to a question as to whether the Southern had made any tests to determine whether or not it was getting a proper charge for its switching services, Mr. Kerr replied in the affirmative and added that, in the majority of cases, the charges would all even up and "wash out" any profits or losses as related to reciprocal switching charges.

Mr. Hagerty next questioned Mr. Kerr as to the latter's knowledge of any cases where freight is stored in cars and received a negative reply, with the exception of those cases affected by regular demurrage rules. The attorney for the commission then referred to the direct testimony of the transportation witness for the Southern who mentioned that at Lexington, Ky., tobacco shipments were held in cars under certain conditions. Mr. Kerr went into some detail to explain that an unusual situation exists at Lexington wherein tobacco, a seasonal crop, is at times concentrated at loading points in quantities far exceeding warehouse capacity. In such cases, he said, cars are placed on team tracks for loading and notice of placement is served on the consignee. Attorney Hagerty then asked if, where the consignee is unable to take immediate delivery of a shipment of tobacco and it becomes necessary to handle cars a second time, the railroad had not rendered a service that would justify a charge in excess of the tariffs. Mr. Kerr prefaced his reply by explaining that the consignee has trackage facilities sufficient to accommodate the usual traffic; that where this is not the case the cars are put under constructive placement so that demurrage begins. On being asked whether demurrage charges contemplate second handling, he replied in the negative, but added an opinion that the carrier has the responsibility of providing special service in an emergency such as track storage of cars beyond the trackage facilities of the shipper.

Mr. Kerr, in closing his testimony said, in response to a question from J. S. Burchmore, representing the National Industrial Traffic League, that the cancellation of switching arrangements now in effect would not only not help the railroads, but would also work to their disadvantage as well as that of the shippers.

Big Four

Witnesses for the Big Four, the next road to be called in the Cincinnati hearings, told the commission, represented by C. M. Bardwell, examiner, about the terminal practices of that road from a traffic and operating standpoint. W. P. Ferguson, general freight

agent, said that the line-haul rate includes the placement on private or public tracks of the cars and the switching out of cars from such tracks, and that the switching charges on both competitive and non-competitive car-load traffic are absorbed where the net revenue from the haul equals $19 per car after such absorption of charges. Typical allowances to industries for performing their own intra-plant switching vary from $1.04 to $1.74 per car. Questioned by Attorney Hagerty, for the commission, as to whether any studies had been made to determine the amounts paid out for the absorption of switching charges and as to the actual cost of performing switching operations Mr. Ferguson replied that he had no knowledge of any such studies and added that in his opinion the reciprocal charges now in effect are, as a whole, high enough to cover the cost of rendering such service. On being asked whether in the case of live stock loading there were any cases where yardage charges were absorbed he replied in the negative. When asked by Mr. Burchmore whether it would be of any advantage to the railroads to cancel the absorption of charges on switching Mr. Ferguson replied that it would be a decided disadvantage.

S. V. Bevington, superintendent of the Cincinnati terminal of the Big Four, explained the methods of handling car-load and less-than-carload shipments at this terminal and outlined in detail the arrangements that road has with industries in that district including the allowances paid for the performance of industrial switching. Mr. Bevington was followed on the stand by D. A. Fawcett, trainmaster at Springfield, Ohio, who testified concerning the operations on the Cincinnati Division of the Big Four.

Clinchfield

L. L. McIntyre, superintendent of the Clinchfield at Erwin, Tenn., said that switching charges are absorbed on competitive traffic and that no allowances are made to any industry for performing its own switching. C. A. Smith, the Clinchfield's traffic witness, read into the record the tariffs and the rules pertaining to switching, storage, reconsignment and diversion. The absorption of switching charges is induced, he said, by rail competition. The reciprocal switching charge on that road, he testified, is $2.25 per car with intra-terminal charges as high as $7.20 a car. When asked why there should be a difference in such charges the answer was that it was probably due to a difference in the nature of the service rendered.

Louisville & Nashville

On direct testimony for the Louisville & Nashville, L. L. Drescher, assistant to the vice-president in charge of traffic, explained the tariffs and rules pertaining to switching, storage, loading and unloading, and reconsignment and diversion, and mentioned that the switching charges are absorbed on competitive traffic. Asked as to whether or not the revenues from switching charges are sufficient to cover the cost of the service he replied that no cost study had been made to determine that point. He added later that he believed the roads might well study actual costs in relation to reciprocal charges in order to find out the true status of such conditions. Mr. Drescher said that no allowances are paid to any industry for the performance of its own switching.

W. P. Porter, transportation inspector for the L. & N., filed for the record a list of the industries served by that road classified as to the type of service performed. The L. & N., he said, finds it necessary in one instance to maintain a smaller locomotive at a certain industrial center to perform switching operations for a number of older plants where the track facilities are such that modern switching power can not enter the plant tracks. The switching locomotives in service on that road all serve more than one industry. Questioned concerning the cost of performing switching operations, Mr. Porter lightened the proceedings somewhat with an off-the-record narrative which illustrated the fact that he did not know what the costs might be and added that it was not possible to compute such costs for comparative purposes until someone prescribed a formula for making cost studies. Questioned as to the relative cost of performing switching at team tracks and industrial sidings he replied that, all things being equal, it should cost more to spot a car at the latter location than at the former.

Baltimore & Ohio

H. C. Batchelder, superintendent of the Cincinnati terminal of the Baltimore & Ohio, explained the conditions of operation in the Cincinnati terminal district and offered for the record lists showing the industrial common carriers in the district; the industries served by a system of tracks and the industries served by an ordinary private track. Mr. Batchelder referred to the testimony of the Big Four transportation witnesses and explained that the practices of the B. & O. do not differ materially with reference to plants served by both carriers from those of the former road. He explained that in some cases industrial switching is performed in conjunction with another carrier and that the costs are prorated on the basis of the cars handled. He said that, on the average, one switching movement is about as expensive as another and that as far as his territory was concerned no study to determine engine-hour costs had been made. W. C. Baker, superintendent of the St. Louis division, offered practically the same testimony relating to his territory and, in reply to one question, said that the reason certain industries prefer to perform their own switching is that they have a number of intra-plant movements to make which can be performed more economically, considering interference with plant operations, by their own switching locomotives. M. B. Hines, superintendent of the Indianapolis division, and G. W. Hunt, district supervisor of terminals, also testified on transportation matters along essentially the same lines as previous B. & O. witnesses.

J. A. Simmons, freight traffic manager, said that the line-haul rate includes the use of cranes for loading and unloading. The switching rates, he said, vary in different localities from $2.70 to $4.95 a car and that the reciprocal switching charges are generally absorbed. Questioned concerning the effect of motor truck competition Mr. Simmons cited a specific case at the Indianapolis Union Stock Yards where, in October 1931, 88 per cent of the receipts of live stock were by motor truck whereas several years ago 95 per cent of the stock came in by rail and 5 per cent by wagon. He stated, on being questioned, that trucks were able to perform services for a shipper which the railroad could not perform through the use of team tracks or private sidings. In the matter of allowances to industries for the performance of their own switching operations Mr. Simmons stated that such allowances are made because industries perform such service with their own equipment at a cost less than it could be performed by the railroad company.

H. R. Lewis, freight traffic manager, was the last B. & O. witness at the Cincinnati hearings and testified that the B. & O. absorbs reciprocal switching charges on both competitive and non-competitive business, and

that these charges vary from $2.50 to $5 a car. The effect of absorbing such charges, he said, is to broaden the opportunity of the line-haul carrier to render service to an industry. Replying to questions on truck competition he said that a study of such competition would indicate the necessity of absorbing reciprocal switching charges in order better to meet such competition.

Mr. Lewis' opinion as to whether or not reciprocal charges are sufficient to cover the cost of operation was to the effect that, "by-and-large," they were. Asked whether a study had been made to determine who received the "short end" in the matter of reciprocal charges he said that a study had been made, some time ago, covering one month's operation and that with thousands of cars involved the difference was less than $100. Mr. Lewis offered an opinion that industrial switching rates are higher than reciprocal rates because they include double terminal service—at origin and destination—whereas the reciprocal rate involves only one terminal service.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended October 31 apparently began the usual end of the year seasonal drop by declining approximately 29,000 cars as compared with the week before with a total of 740,363 cars. This was a reduction of 194,352 cars as compared with the loading in the corresponding week of last year and of 331,871 cars as compared with the 1929 figures, which has just begun to reflect plainly the beginning of the business depression. Loading of grain and grain products for the week amounted to 41,275 cars, an increase of 1,112 cars as compared with the week before and of 2,932 cars as compared with the corresponding week of 1929, but a decrease as compared with last year. All other commodity classifications showed reductions as compared with the preceding week and with the corresponding weeks of both previous years. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, October 31, 1931

Districts	1931	1930	1929
Eastern	165,258	203,414	238,056
Allegheny	143,491	177,897	218,043
Pocahontas	47,837	56,603	64,597
Southern	107,093	133,436	148,936
Northwestern	88,029	132,195	149,142
Central Western	122,843	154,174	164,315
Southwestern	65,812	76,996	89,145
Total Western Districts	276,684	363,365	402,602
Total All Roads	740,363	934,715	1,072,234
Commodities			
Grain and Grain Products	41,275	44,347	38,343
Live Stock	28,999	32,459	33,897
Coal	141,068	176,257	189,016
Coke	5,286	8,848	12,150
Forest Products	23,650	38,134	59,801
Ore	12,656	35,063	45,817
Mdse. L.C.L.	214,339	240,582	271,305
Miscellaneous	273,090	359,025	421,905
October 31	740,363	934,715	1,072,234
October 24	769,673	959,492	1,134,360
October 17	761,719	931,105	1,185,564
October 10	763,864	954,782	1,179,540
October 3	777,837	971,255	1,179,947
Cumulative total, 44 weeks	32,379,444	39,905,050	45,671,671

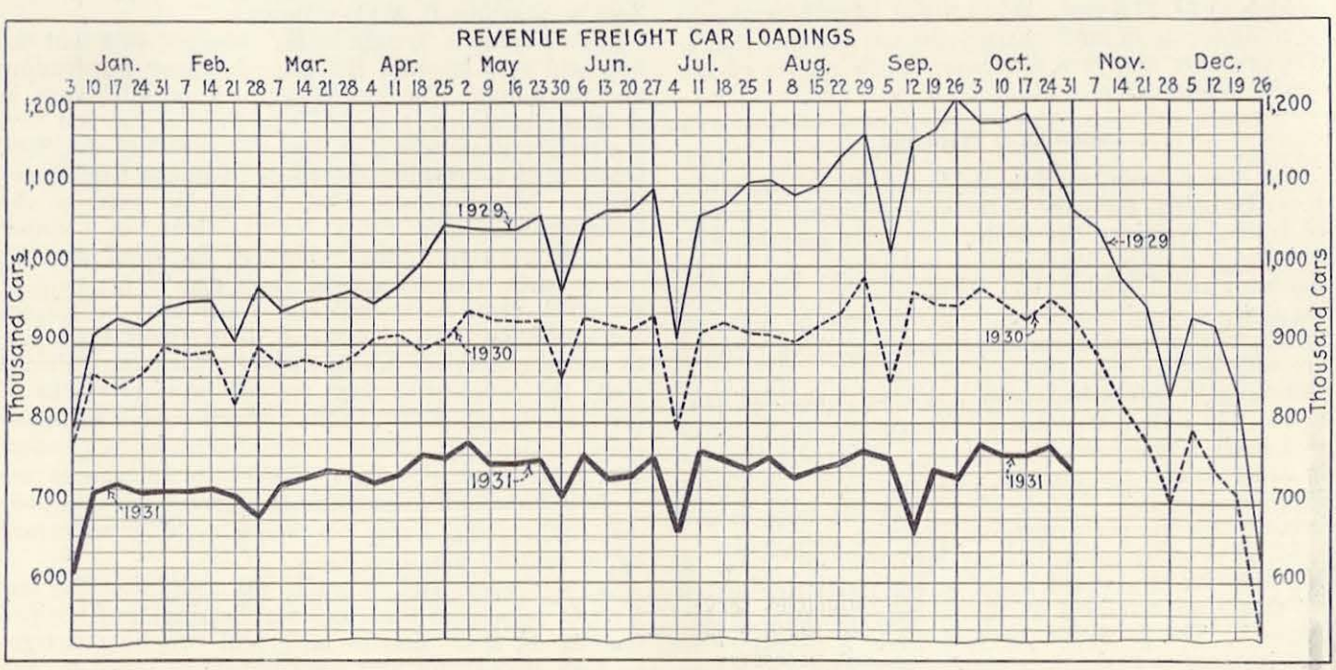
The freight car surplus for the week ended October 22 averaged 532,301 cars, a decrease of 3,301 cars as compared with the week before. The total included 287,131 box cars and 186,081 coal cars.

The chart showing freight car loadings which appeared in last week's *Railway Age* contained a serious error in the curve showing loadings during October of the current year. It is, therefore, shown again herewith as corrected.

Car Loading in Canada

Revenue car loadings at stations in Canada for the week ended October 31 totaled 61,300 cars, a decrease from the previous week of 346 cars and a decrease of 5,659 cars from the same week last year.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
October 31, 1931	61,308	23,135
October 24, 1931	61,654	23,327
October 17, 1931	55,859	22,665
November 1, 1930	66,967	32,578
Cumulative Totals for Canada		
October 31, 1931	2,179,186	1,122,329
November 1, 1930	2,720,631	1,468,273
November 2, 1929	3,050,258	1,816,137



New Haven's Co-ordinated Transport Proves Efficient*

No regulatory distinctions should be made between common and contract motor vehicle carriers

By John J. Pelley

President, New York, New Haven & Hartford

AVIATION is so recent a development that it has not yet become an important factor in our national system of transport. It is a matter of common knowledge, however, that practically all of the air lines in operation today are being aided by government subsidies in the form of generous mail contracts; and these air lines provide passenger service in competition with the railroads.

While subsidizing long-distance air mail routes may be justified in some instances because of the time saved, and as a means of developing aviation for the purposes of national defense, the public may well question the necessity of subsidizing some of the existing short distance air mail routes where very little time is saved compared with the railroad service that now carries the bulk of the mail.

The more important agencies comprising our national system of transport are the railroads, highway motor vehicles and the water lines. Each of these forms of transportation is capable of providing a useful public service. The relationship which these forms of transportation shall bear to one another is not only a problem for the railroads but it is an important public question. The solution requires that each form of transportation must provide the service for which it is best adapted.

On the New York, New Haven & Hartford, we feel that we have made considerable progress in developing such a system of co-ordinated transport, using each agency of transportation for the traffic it can handle most efficiently and economically. Ever since it was first established, the New Haven has owned water lines operating through Long Island Sound between southern New England ports and New York. New England, as you know, is a densely populated area. The cities and towns are closely connected by a complete system of improved highways. Highway motor transportation developed early in New England. Through its subsidiary, the New England Transportation Company, the New Haven began operating highway motor buses for the transportation of passengers in 1925.

Co-ordination Reduces Operating Costs

The New Haven was one of the first railroads to operate motor buses and from the start it has been one of the largest operators among the railroads. At present, 252 buses are operated, a total of over 30,000 miles each day. In 1930, more than 5,000,000 passengers were transported. In many instances, highway motor buses have been substituted for steam passenger trains, particularly on branch lines, with a large reduction in operating costs.

The New Haven began its operation of motor trucks in 1929 to take the place of local way freight trains and to supplement our main-line freight service to reduce the time of transportation. The elimination of local freight trains through the operation of motor trucks has also reduced our operating expenses. Highway motor trucks have made possible the establishment of the "Accept Today—Deliver Tomorrow" plan for handling less than carload freight (described in the *Railway Age* of August 1, page 163). Under this plan, overnight transportation is provided between practically every point served by the New Haven. Prior to the inauguration of the "Accept Today—Deliver Tomorrow" plan, much of our scheduled railroad service for shipments of this nature was two, three and four days. Our highway freight service has also been co-ordinated with the water transportation provided by our steamer lines, so that overnight service is available between practically every city and town in southern New England and the piers in lower New York city.

In the development of our co-ordinated system of transportation, we have speeded up our rail freight service. New trains have been established. The New Haven and the Pennsylvania recently established a new fast freight train known as the "Speed Witch" between Boston and Baltimore and intermediate stations. This train makes its run of 425 miles in 15 hours, including a 3½-mile transfer by carfloat across New York harbor. The New Haven and the Boston & Maine are operating a new fast freight train known as the "Maine Bullet" between Portland, Me., and New York, making the run of 331 miles in 12½ hours. The advantages of this fast freight service are not confined to important cities located on our main line. By means of our highway motor trucks, which supplement our car rail service, its benefits have been extended to practically every city and town in the territory which the New Haven serves.

Our experience on the New Haven in operating the co-ordinated system of transportation I have described has proved conclusively that not only is a superior service provided for the public, but the railroad has been able to regain a large volume of traffic that had previously been lost to the competing motor trucks and water lines. In developing our co-ordinated system of transportation, using the railroad, our water lines and highway motor vehicles to provide the service for which they are best adapted, we have been seriously handicapped by unfair competition. Unfair competition tends to destroy the stability of transportation that is essential if the industrial and commercial development of the country is to continue. Our experience has shown that there is an urgent need for regulation that will prevent

* Abstract of an address made at the Transportation luncheon of the Illinois Chamber of Commerce at Chicago on October 8, 1931.

the unfair competitive methods which threaten the public interest.

Motor Trucks Should Be Considered as an Industry

The regulation of motor truck carriers for hire is a broad question. If motor truck transportation is to develop on a sound economic basis as it should it must be considered as an industry rather than in view of the individual motor trucks which comprise the industry.

There have been frequent attempts to distinguish between the common carrier and the so-called contract carrier, but to be successful any system of regulation must cover all carriers operating on the highways for hire. The only exception from regulation should be the commercial vehicle that is owned and operated by an industry to transport its own business. From the standpoint of regulation, there can be no distinction among the carriers for hire as between the common carrier and the contract carrier. Highway transportation for hire is always provided under a contract of some form. All railroad transportation is provided under a uniform contract. In the regulation of railroad transportation no distinction is made between the individual passenger and a person who contracts for a special train—the same regulation applies and to the same extent. The same is true of the regulation of the transportation of freight, whether it be a hundred pounds, a carload, or a trainload.

As the first step in regulation, I believe that all motor truck carriers operating on the highways for hire should be licensed in each state in which they intend to operate. A license should only be issued when the applicant has satisfied the regulating authority as to: (1) His suitability and experience; (2) his financial responsibilities; (3) the probable permanence and quality of the service to be offered by the applicant; and (4) that adequate surety or insurance has been provided for protection of the public.

Having been licensed by the states in which he proposes to operate, the carrier for hire should be subject to regulation of state and interstate authorities in the following respects: (1) The supervision and approval of satisfactory service and safety of operation; (2) the fixing or approving of just and reasonable rates and charges which will be published and adhered to; and (3) a system of uniform accounts and the filing of such annual or other periodic reports as the state or interstate commissions may require.

I do not have in mind that there should be any relationship between the rates and charges for motor truck transportation and railroad rates. Rather, the just and reasonable rates and charges should be determined entirely from the standpoint of motor truck transportation. The motor truck rates and charges can be based on per hundred pounds, per ton, per truckload, per hour, per day, or per truck mile, to cover any and all of the various requirements so that motor truck transportation for hire can retain its present flexibility.

It is not improbable that in the future when regulation has become a fact, each commission will publish tariffs which will contain the rates and charges of all motor trucks operated for hire over which the commission has jurisdiction. The regulating authorities should also be empowered to supervise and regulate carriers for hire operating on the highway in all other matters affecting their relationship with the public to the same extent, and in the same manner that public utilities generally are regulated.

When considering a fair payment for the use of the highway and the regulation of motor vehicles for hire, let me remind you that the New Haven railroad is the largest operator of highway motor vehicles in our territory. We have some 800 revenue units in service, including those of our subsidiaries. We do not ask anything for our competitors that we are not ready and willing to have applied to our own highway operation. The regulation of motor vehicles operated on the highway for hire is not only of importance to the railroads but is of equal concern to the automotive industry and to the shipping public.

Traffic Clubs Meet at Tulsa

TENTATIVE approval of the establishment of a national transportation institute, a non-partisan organization to develop facts regarding all methods of moving commerce, was given at the annual meeting of the Associated Traffic Clubs of America at Tulsa, Okla., on October 28-29. More definite action in the matter will be taken at the spring meeting of the association in St. Paul, Minn.

The recommendation for the formation of a transportation institute was embodied in a report of a special committee consisting of Professor L. C. Sorrell of the University of Chicago and Professor Howard Kidd of the University of Pittsburgh, which stated that the efforts of the association may most appropriately be directed toward securing the necessary investigation of major transportation problems by competent and impartial authorities and especially toward the creation of a national transportation research institute. The membership of committee was raised to five and it was authorized to continue its study of the problem and to seek the aid of impartial bodies which may aid in the establishment of such an institution. The institute, when established, will be designed to develop and correlate all facts having to do with transportation in all sections of the country. It will be in charge of transportation research workers who are not allied with any one competing form of transport. With this arrangement, the institute will serve as a developer of facts available to the Interstate Commerce Commission, Federal courts, other rate-making bodies and others concerned with the problem.

Officers elected for the ensuing year are as follows: President, T. T. Harkrader, traffic director of the American Tobacco Company, New York, re-elected; vice-presidents, (executive), H. W. Roe, general traffic manager of the Mid-Continent Oil Company, Tulsa, Okla., J. W. Roberts, assistant vice-president of the Pennsylvania, New York, L. C. Sorrell, professor of transportation of the University of Chicago, R. C. Bray, traffic manager of the Trojan Powder Company, San Francisco, Cal., re-elected, and J. M. Fitzgerald, vice-chairman of the Committee on Public Relations of the Eastern Railroads, New York, re-elected; secretary, F. A. Doebber, traffic manager of the Citizens Gas Company, Indianapolis, Ind., re-elected; and treasurer, W. T. Vandenburgh, commercial agent of the Seaboard Air Line, Louisville, Ky., re-elected.

The program of the meeting included speakers who discussed the various types of transportation. J. R. Turney, vice-president of the St. Louis Southwestern, spoke on the motor industry, saying that the railroads need only modernize their practices, utilize efficiently their rail facilities for line haul and supplement them with trucks in the limited terminal and distributive

spheres within which the truck is obviously the superior, in order to render a cheaper and better service than a competitor operating only by truck. An abstract of Mr. Turney's paper was published in the *Railway Age* of November 7.

Cornwell Speaks on Rate Decision

John J. Cornwell, general counsel of the Baltimore & Ohio, spoke on the national transportation problem, referring to competition, the decline in railroad traffic and business depression—saying that if the present emergency can be met and if the railroads are permitted to unify and consolidate wherever it can be done economically, efficiently and in the public interest, despite the new, subsidized and unregulated competition, they can and will survive and continue to operate efficiently. He also discussed the opinion of the Interstate Commerce Commission upon the carriers' application for a 15 per cent increase in freight rates, saying that two things were not taken into consideration in that opinion—1. That the case was an emergency revenue and credit-sustaining measure and not a rate case; and, 2. That the application was filed before traffic men had made or could make a careful study of the situation, because of the apparent urgency of the matter, and that a study was being made and the intention announced to exclude, with the consent of the commission, from any rate advance, commodities which the study developed should not properly be included. He also referred to the commission's suggestion that the railroads be relieved of the cost of grade separations, expenditures for the benefit of the public and from which the railroads derive no revenue, saying, "Do you imagine the state legislatures will pay any attention to that suggestion? Those of us who have to deal with such matters know only too well that the fight in the legislatures to put a larger percentage of the cost of grade-elimination projects on the carriers will go on and that bankrupt state and local treasuries will strengthen the hands of those waging the fights."

H. M. Lull Urges Unified Transportation

H. M. Lull, executive vice-president of the Southern Pacific, laid down certain principles as a basis for the consideration of transportation problems and charged that the introduction of competitive transportation agencies on a large scale is a disruptive influence of major importance in the general rate structure. The principles which he cited were: First, that the public is entitled to the best and most efficient transpotration possible and at the lowest possible cost; second, that in determining costs all items of cost must be considered, whether paid directly by the shipper or indirectly in the form of taxes; third, that railroads no longer have a monopoly of transportation and that regulatory measures applied to them should be equally applied to competitive transportation agencies; fourth, that support should be given by the shippers, the public and the regulatory commissions to that agency, that is the railroads, which alone is able to meet the major transportation requirements of the country efficiently and at the lowest total cost in order that that agency may not, through inadequate earning power, become incapable of such service, with consequent chaos and inadequacy in the whole transportation industry; and fifth, that to merit such support the railroads must exert themselves to the utmost to so modify and supplement their forms of service as to satisfactorily meet modern requirements.

"If," he said, "railroads are to be deprived to a large extent of a higher rate of traffic, it is evident that they cannot continue to carry the low rated commodities at the present scale as these alone will not produce enough revenue to sustain the railroads or maintain their credit."

Other Addresses

Ezra Brainerd, Jr., chairman of the Interstate Commerce Commission, spoke upon the Interstate Commerce Commission, referring to the Act of 1887, which created the Interstate Commerce Commission, and outlining the powers of that body.

H. H. Rogers, president of the Exchange National Bank of Tulsa, advocated the correlating of all the agencies of transportation, so that there can be the best possible service to the public at a reasonable return to the railroads with a surplus to be accumulated for future developments. He held that the railroads are at a turning point in working out solutions to their problems, and that failure to develop unified plans means disaster.

Paul A. Walker, chairman of the Corporation Commission of Oklahoma, gave a brief history of pipe line transportation, emphasizing its growing importance and the possibilities of the transportation of commodities other than gasoline, crude oil and natural gas by pipe lines. In emphasizing the magnitude of pipe lines transportation, he referred to the Great Lakes Pipe Line Company's 1,400 mile line system which is now transporting gasoline from Oklahoma to Chicago and Minneapolis, with a branch line to Omaha. This line, the largest in the world, can gather approximately 30,000 barrels of gasoline per day and is now carrying an average of approximately 25,000 barrels per day with a line loss said to be less than 1 per cent.

Calumet Sag Waterway Opposed

(Continued from page 742)

way and structures in the approach thereto; additional interlocking plants and machinery, and power and labor for opening and closing bridges; changed physical conditions resulting in delays to trains; stopping of trains at drawbridges when open for waterway traffic; increased cost of lifting to higher elevations the tonnage that passes over the railroads; delays to switching operations by more frequent opening of bridges; greater expense due to steeper gradients from main line tracks to industry tracks; and additional cost of operating water stations, fuel stations and other railroad facilities. Taxes are not included.

These increased annual operating costs to the railroads caused by the proposed waterway amount to $764,400, which, capitalized at 5 per cent, represent an additional capital investment of $15,288,000.

The total capital expenditure and capitalization of the operation and maintenance expense which will be incurred on account of the reconstruction of the railroad bridges is therefore $132,372,000. Heretofore in this statement the cost of constructing fixed bridges over the Sag channel with 25-foot vertical clearance and 200-foot horizontal clearance and of constructing movable railroad bridges over the other waterways at present elevation of tracks, has been estimated at $43,138,000. As stated, the bridges which could be built for $43,138,000 would not give sufficient vertical clearances to provide for practical railroad operation. It will, therefore, be necessary that there be provided in the aggregate the above sum of $132,372,000 to construct, maintain and operate the new bridges. Consequently, in arriving at the total estimated cost of the project, the sum of $43,138,000 should be increased to $132,372,000 and the total cost of the project accordingly increased from $125,420,000 to $214,654,000.

Government Should Pay Entire Expense

The railroads contend that in determining whether or not an inland waterway project is economically justified, all costs, including the cost of adjusting all railroad facilities to new

grade lines made necessary by changes in vertical clearances of bridges, should be considered. In determining the amount of traffic which should move on the project under consideration, the cost of the project should be estimated at not less than $214,654,000 instead of $125,420,000. In order to justify such an expenditure, using the formula of the district engineer as previously described, the amount of traffic per year on the proposed project should exceed 28,600,000 tons in addition to the 7,515,000 tons already capitalized.

If this project is to be carried out, the railways feel that the government should pay the entire expense. "We do not want to be misunderstood," reads their brief. "We do not believe the government should spend any money on this project. But if the work is to be done for the benefit of a few at government expense, in fairness the government should reimburse the railroads for all expenditures which are required to be made in the reconstruction of their bridges, the raising of their tracks, and the adjustment of all other facilities. To do otherwise is to penalize land traffic unjustly."

Eastman Favors Public Ownership, But Not Just Yet

ADMITTING that the "financial overlords of our railroads and public utilities companies" do not arouse any particular admiration on his part, Interstate Commerce Commissioner Eastman, speaking before the American Academy of Political and Social Science at Philadelphia, Pa., on November 7, nevertheless said that he had the utmost respect for many of the men who are in direct charge of operation. The commissioner's address was on the subject of public and private ownership. He favored the former, but did not urge its immediate adoption, and emphasized that he was speaking only for himself, and not officially. Continuing he said in part:

"I am not urging either immediate or early public ownership and operation of the railroads. Because of its magnitude, that would be an undertaking which ought not to be contemplated without most careful preparation and planning, and there has been nothing of the kind. Nor is the time ripe. Paradoxically, it is not so near to being ripe as it was some years ago. Transportation is now in an era of change. Competition is a bigger factor than it has been for many years. Until we can see ahead a little more clearly, at least, I am not ready to advise that steps be taken toward public ownership and operation of the railroads.

"It is still a custom to brand the idea of public ownership and operation as 'socialistic,' and dismiss it with that brand as opposed to what has been called rugged American individualism. But this is use of words to paralyze rather than promote thought. As a matter of fact our individualism has always been tempered to a considerable degree with socialism, and the tendency has been to increase that degree.

"The original purpose of public regulation was to protect the public against extortion and unsafe, inadequate, or poor service. It is now regarded, also, as a means of protecting the regulated companies against each other, against their competitors, and even against the public. The Transportation Act, 1920, was motived to a very considerable extent by that thought, and in still greater degree it motives the present demand for the extension of public regulation in the case of motor buses and trucks, water carriers, air planes, and pipe lines.

"I am the last man to deny that public regulation serves very useful purposes in the general interest. Nevertheless it is open to certain obvious criticisms. Inevitably it means a responsibility which is divided and overlapping. Such a system runs counter to what are ordinarily regarded as sound principles of administration. The clash in authority becomes more acute the more active public regulation is. Nor is responsibility divided only between the companies and the commissions. The authority of the latter is circumscribed by statutory and constitutional law.

"The part which the commissions play in management under court surveillance is necessarily performed in a way which in itself is inconsistent with sound principles of administration, as generally understood. The commissions must obtain the information upon which they act, not as executives inform themselves, but through the long drawn-out processes of judicial procedure, with opposing witnesses supported by batteries of counsel and with the hazard, always, that the hostilities will be prolonged by appeal to the courts.

"Furthermore, management in part through public regulators has other singularities. To be done efficiently it requires, like any other difficult undertaking, much accumulated knowledge, experience, and acquired skill. Yet there is seldom an opportunity for the prior training of commissioners. They are also subjected to the hazard of reappointment at stated intervals. And if they exhibit marked capacity, a demand for their services elsewhere, where standards of remuneration are higher, is likely to develop, and particularly from the very companies which they regulate.

"This very condensed summary must at least suggest the thought that some better way can be found of directing the performances of the public functions which are the reason for the existence of the public utilities. And having sound principles of administration in mind, the thought must also suggest itself that a better and also simple way would be for the government to take over these public functions itself and assume complete and undivided responsibility for their management, in place of the partial responsibility which it has already assumed. At one stroke this would eliminate the troublesome question of valuation, greatly simplify financing, largely eliminate the courts as a time-consuming factor in the situation, and reduce cumbersome judicial procedure in connection with questions of management to a minimum.

"Public ownership need not be combined with public operation. It is quite possible to contract for private management, and to provide in the contract such definite safeguards against exploitation and abuse as may be desired. Personally I incline toward public operation as well as ownership. But such operation need not be through an ordinary government department or bureau. Instead it can, and I believe should be carried on, just as private operation is carried on, through the medium of a separate corporation, with the government as the stockholder.

"Given a plan for the public operation of these industries which will give the managers a degree of autonomy somewhat comparable to that existing in private industry and which will protect them against continual petty and political influence, I am confident that no difficulty would be experienced in obtaining the services as executives of men of the highest ability and character. The great business executives of the present day neither own nor control the properties which they manage. They must all serve somebody, and given a fair chance, I have little doubt that many of them would prefer serving their country or their state or their city to serving purely private interests and profit."

Communications . . .

Is Railway Ruin the Real Purpose of Depreciation Order?

MILFORD, CONN.

TO THE EDITOR:

Regarding the Interstate Commerce Commission's recent decision requiring depreciation accounting, it behooves you to get busy in your usual vigorous manner to show in more detail and at greater length the damage the proposed requirements will develop. Docket 15100 is long winded, and the most theoretical order that the Commission has ever issued in connection with steam railroad accounting. One must read this order a number of times to comprehend fully the practical danger that lurks in back of this mask of theory, but it takes only a casual reading to show that the learned Commissioner who wrote it is taking the raods severely to task and gives them the most open spanking that any I. C. C. orders or decisions have ever shown.

He has not forgotten the strenuous efforts the railroads made to show, not the theoretical wisdom of postponing or enminating this order, but the practical difficulties which are now approaching on the horizon. Never before has an order for systematizing an orderly accounting procedure included so clearly an anticipated interference by the courts. However, more and more the Commission has taken upon itself to show, both to the public and to the judiciary, that it is almost a law unto itself.

Their accounting classifications, their valuation orders and numerous other orders have never yet been clearly interpreted by one railroad in the country. It has been my experience to observe that the best accounting brains and the most practical accountants and engineers have interpreted and carried out their orders to the letter as written in the English language, only to find upon examination by the Commission's accountants and engineers, that an entirely different thing was intended (which never could have been read into the order), resulting in the preparation of new data or adjustments several years after transactions took place.

Docket 15100 seems to worry the Commissioner a little, if one carefully reads of the anticipated difficulties and the cost of the order as well as the effect on revenue that he anticipates the carriers will encounter.

The carriers of the country are very busy at present studying the present typical Commission decision relative to rates just made, and also during the next few months their financial problems will take considerable additional time, but once they get into the actual effects of the new depreciation order it will become evident to the executives in more concrete form just what the rate of return on property investment will be when depreciation accounting is in effect.

For some carriers it will halve their net available for dividends; for others it will completely wipe out their net. That they will not receive an increase in rates to offset these additional charges is a foregone conclusion. The total cost of this new theory to the stockholders when finally computed will astound both the financial community as well as the public. Then the Commissioner will see the results of his theory and will have the satisfaction of seeing the carriers just another step closer to government ownership.

Throughout docket 15100 the Commissioner likes to harp back to opposition and mistakes that the carriers made many years ago. These mistakes are more than offset by the well established fact, which the Commission's Bureau of Valuation brought out, that instead of having a system of transportation in the United States that was loaded from one-quarter to one-third with water, they have found much to their sorrow that the railroads in this respect were not one bit as bad as they had been painted; not to mention the fact that the Commission will soon be called upon to pass upon a New England consolidation attempted 25 years ago and at that time badly discredited.

Unless the carriers as a whole take prompt and vigorous action, their present difficulties will be small compared with what the next 24 months will bring forth. The average citizen is beginning to wonder why one of the largest industries in the United States is so completely hamstrung by laws and regulations which no other public utility has to contend with. When an extra dollar is made over theoretical standard return, efforts are made to take it away or tie it up, but nothing is said about bringing forth some relief when there is a shortage. Even at the present time with the carriers in such a precarious situation, I have witnessed within the last thirty days a number of the Commission's accountants being transferred to another location to work up a recapture case on a railroad which passed its dividends in 1930.

C. A. GOELZ.

[We agree fully with our correspondent as to the injustice of and danger in the depreciation order; and we believe it should be promptly and vigorously contested in the courts.—EDITOR]

Pay Checks Are Much Lower Though Wage Rates Stand

AURORA, ILL.

TO THE EDITOR:

Says Edgar J. Mack, Jr., in the *Railway Age* of October 3, "The best thing that could be done would be a ten per cent wage reduction. Not only would this save the railroads millions, but the wage-earner would still be receiving more actual purchasing power than he did in 1929, living costs having dropped at least fifteen per cent."

That is only part of the picture. We hear many statements similar to this from rich men, and sons of rich men, in which latter category Mr. Mack possibly falls. A little investigation before bursting forth in print would show them the fallacy of this half-truth; many of them know it is fallacious, but propagate it for policy reasons. I would like to take Mr. Mack around this community for a first-hand object lesson. The chief activities here are railroading and manufacturing. All of the railroads, and some of the factories, here have not cut basic wages; but as a result of curtailed working hours, reduction in rank, reduction in the number of employed persons per family, and similar reasons, the average family income here has declined much more than Mr. Mack's alleged fifteen per cent decrease in the cost of living.

I am afraid, too, this fifteen per cent would not stand analysis. The Department of Commerce recently released figures purporting to show a reduction of 11.7 per cent in the cost of food, and my personal experience indicates an approximately equal reduction in the cost of clothing. But these items, after all, hardly constitute more than half the expenditures of the family of average means.

Rents have declined only slightly. For those of us who own our own homes (in this community, about half the families), shelter costs are higher, due to increased taxes—part of which, incidentally, are used for construction of the Illinois waterway, which will still further reduce railroad employment in this section. Other important items in the family budget, such as gas, electricity and water, insurance, church and relief contributions, medical and hospital expenses, transportation, and amusement, have not decreased at all.

Take my immediate neighborhood as typical. My next door neighbor, employed in a local factory, is working an average of twenty-five hours a week. Across the street is a neighbor employed in the local railroad shops, which have been running on a "two weeks on, two weeks off" basis. Next to him is a conductor who has been reduced to brakeman because of lack of traffic on the railroad. My individual earnings have not been affected, but the other employed member of my family has been laid off because of dull business in the local factories, leaving me the sole support of a family of five adults.

A canvass of the city would show conditions similar to those enumerated existing in at least every other home. In the face of these, it is little wonder that the average wage or moderate salary earner has little patience with such smug pronouncements as that of the cocksure Mr. Mack. How can the prosperity of the country ever be restored, if the depleted purchasing power of the small income earners who constitute the great majority of its population is to be still further reduced?

CHARLES H. BRADY.

Odds and Ends . . .

Luxury for Railway Mail Clerks

A South American railway seems to be going to considerable trouble to keep the mail clerks on its trains happy and contented. Some new mail cars which it is placing in service not only have every facility for the rapid sorting and distribution of mail under the most convenient conditions, but also excellent sleeping accommodations, shower baths and an observation platform at one end.

Patronize the Frisco and Get the Football Scores

You don't have to suffer agonies of suspense over the fortunes of your Alma Mater if you spend your Saturday afternoons during the football season riding on Frisco trains. A survey made by the management of the Frisco is said to have shown that many persons were remaining at home instead of traveling over the week-end, because without remaining at home beside the radio, they cannot follow the football games in which they were interested. Now the scores of the important games are carried over the Frisco wires and are posted in the trains at frequent intervals.

Two Still Sleep as Cheaply as One

One of the protestants who persuaded the Interstate Commerce Commission to suspend until May, 1932, the schedules of the Pullman Company increasing the charges for berths occupied by two persons, was Fanchon and Marco, Inc. The Pullman Company, you know, proposed to charge 20 per cent of the fare in addition to the regular berth charge when two passengers instead of one use the accommodations. Fanchon and Marco said that an increase of this sort in Pullman rates would seriously affect them because of its practice of requiring young people in its theatrical troupes to "double-up" in the lower berths provided for them. We are surprised that no protest from the management of Singers' Midgets has been reported. The extra charge might be really serious to them, if we are correct in our assumption that they take advantage of the opportunity to carry the entire troupe in one section.

More Record Loads of Lumber

Special lumber trains from California are getting pretty common. We reported in the issue of September 26, the operation of the Redwood Empire Special, a 117-car train containing more than 3,000,000 ft. of redwood, which the Southern Pacific handled eastward from northern California. Not to be outdone, the Great Northern initiated freight service over its new California line with the operation of a special lumber train of Shevlin pine from McCloud, Cal., on September 15. This train, consisting of 57 cars, arrived at Minneapolis in less than six days and was accorded an enthusiastic reception by Great Northern officers, city officials, and civic leaders.

Six days later, a third lumber train started eastward, this one originating at Pinedale, Fresno county, Cal. This train consisted of 108 cars, of which 17 were routed via the Santa Fe and 91 via the Southern Pacific. A feature of the celebration which marked the departure of this train was the burning in effigy of "Old Man Gloom."

Bridge Has Its Face Lifted

The oldest stone arch railroad bridge in the Middle West is having its face lifted. Designed to carry traffic in the 1860's and still doing its work well, the Shopiere bridge of the Chicago & North Western, located near Tiffany, Wis., is undergoing a process of renovation, including a 6-in. elevation of the track to provide for additional ballast under the ties.

The bridge is said to be of peculiar construction, rather French in character. It has five spans, is 387 ft. 0 in. long, and 16 ft. wide across the top. They had to rustle around quite a bit to find stone for this bridge. A special quarry at the prison town south of Fond du Lac, Wis., was opened to extract part of the stone and the foundation stone was gathered from East Waupun, and from the Rock River district. The superstructure stone was sent in from Duck Creek, Wis., a small town northwest of Green Bay.

When the bridge was built, engines operated over it by the North Western weighed 43 tons, but it now handles modern locomotives, with their much greater weight, without difficulty. The bridge has been repaired only once before, and that was in 1887 when the top was waterproofed with asphalt.

Italian Railroad Pierces Apennines

Reports from Italy indicate that, after 10 years of labor and the expenditure of $58,000,000, Italian engineers are putting the finishing touches to the new direct railway line through the Apennines from Bologna to Florence. More than 33 of the 50 miles covered by this line are underground, the double track passing through 30 tunnels and over 40 bridges and viaducts. The Apennine tunnel is 11¼ miles long and is said to be the longest double-track tunnel in the world. The Simplon tunnel, which connects Italy and Switzerland, is 12¼ miles in length, but it consists of two single-track bores.

The Italians had to use all their ingenuity to carry out this project. Because of the treacherous nature of the terrain, the work of forestalling landslides in the 11-mile tunnel was more difficult than the actual work of boring through the mass of rock. Despite all precautions, 70 workers have lost their lives in bringing this work to completion.

Grades on the line are at a minimum and there are 37 miles of tangents, making it possible for the electric locomotives to pull passenger trains at a high speed. The running time between Bologna and Florence will be cut from two hours and a half to one hour.

Speaking of Locomotives

To look at locomotive is pretty from locomotive came the locomotive shed. It is fitted with many parts. First will start from the front portion. (1) Fitted with Chimney, the same is set on smoke box. The smoke box is set on the frame and the frame is set on wheels. Smoke box is extended which is called a boiler. And there is a boiler face plate which is fitted with whistle to avoid accidents and instruct public that train to start. Injection to inject water from tender to boiler fitted with vacuum brakes to stop a train running, & fitted with gauge column to show how much water in the boiler & fitted with hand brake to use when engine has no steam and fitted with a tender which carried the water. Top of the tender is the cool food for the Engine. The Engine is fitted with certain number of wheels & rods are fitted by the sides which are called side rods, other rods are connected from one end to the other. The biggest part on is called the big end. The small ends are called the little ends. The little end is connected to the portion which is held by the motion bars & extend to a cylinder contains a head & a rod fitted with steam chest contains valves & inlets & chest connected with steam pipes. Extends inwardly in the boiler with a throttle valve which is covered with big cap called dome the same leads on to the face plate fitted with a guide & regulator, that regulates the Engine to run. These fitted makes Engine look pretty. There is also nice cover made for the driver and fireman to be protected from sun, moon, rain & storm. So the parts of the locomotive and working of the same is a great pleasure to the driver, fireman, cleaner. Cleanliness is next to Godliness. To have a clean Engine makes the Engine pretty and the work a pleasure.—From a pamphlet on the operation of the steam locomotive for the guidance of Indian engineers, reprinted in the Railway Gazette, (London).

NEWS

Appeal to Patriotism of Railroad Employees

Boston Transcript suggests that acceptance of wage reduction would aid business

The Boston Evening Transcript in a leading editorial published November 7 finds, in the present situation, "one of the gravest with which the railways have ever had to deal," an opportunity for railway workers to demonstrate their capacity for patriotic service by accepting a wage reduction which would eliminate "one of the obstacles to the return of prosperity".

The editorial includes an analysis of wage statistics of Class I railroads. It finds that during 1930, when railway revenues declined nearly a billion dollars as compared with 1929, "labor took more of the railroad dollar than in any year since 1921. It then had 46.9 cents. It received 44.8 in 1930. It was the first time that labor's share in the dollar had risen above 44 cents since 1924." There follows detailed tabulations of statistics of average compensation per railway employee back to 1921; in view of such figures the editorial finds that "The conclusion is irresistible that those in the railroad service could stand a reduction in pay much better than workers in many other industries."

An abstract of the editorial follows:

No body of American citizens has a greater opportunity for patriotic service at the present time than have the men who work on the railroads. They are a highly organized group. Through their brotherhoods and other labor bodies they have made their influence felt even in the enactment of the laws of the country. Because of their power, a system has been created which makes it impossible for the railroads to adjust the labor bill to the necessities of the hour. While wages are cut in other important industries, railroad wages stay at the established rates. Yet examination of the figures demonstrates that this level of compensation of the railroad workers is one of the obstacles to the return of prosperity. The railroads are in trouble. As long as their difficulties continue there is a brake upon progress toward better times. The railroad men may do much to remove the brake.

Railroad workers receive annual compensation running into the billions. Their wages amount to more than one-quarter of the wages paid in all the manufacturing industries of the country. Thus in 1929, wages paid in all manufacturing industries were $11,271,000,000. Wages and salaries paid by the class I railways, those receiving revenues of $1,000,000 or more, were $2,896,000,000. No argument is needed to show that if adjustment cannot be made in the huge total of railway wages to go along with adjustments of wages in other industries there is a very great obstacle in the path to prosperity. If the railroad men themselves recognize this fact, and act in the light of it, they will perform a highly meritorious public service. More than that, they are in position to do this with less sacrifice than that made by others who have cheerfully accepted cuts in their compensation. * * * *

It is not too much to say that the railroad men have it in their power to take action that would be recalled in the future as of first importance in the ending of the business depression. And in the midst of that depression no class of workers would seem to be in better condition to make a sacrifice for the general good than the men who have continued to hold jobs on the railroads, with the exception, of course, of those whose earnings are much less than the average. For them there might be need of especial provision as is made for corresponding workers in other industries when wages are cut. * * * *

When, therefore, it is urged that railroad employees should do their share toward the return of prosperity by accepting reduced wages it is not a case of asking poorly-paid workers to get along with less. Railroad employees are well paid in comparison with employees in other occupations. They complain that 350,000—some say more—of their fellows are without work. They have it in their power to make work for some at least among these of the jobless. Reduction in railroad wages will hasten the return of prosperity with the making of jobs in the mill and the factory as well as on the railroad. It is theirs, if they will, to show that, notwithstanding the protection of laws setting up an elaborate system of negotiation and inquiry in the matter of wages, they will embrace the opportunity to perform a rare service to the nation.

R. F. & P. Seeks Injunction Against Withholding of Mail Pay

The Richmond, Fredericksburg & Potomac has asked the Supreme Court of the District of Columbia for an injunction to restrain the comptroller general of the United States from withholding money due the railroad for mail and other transportation for the government to apply on the amount the Interstate Commerce Commission is seeking to collect under the recapture law.

New York Central Proposes Emergency Wage Cut

The New York Central has opened negotiations with its unionized workers with the object of having them accept a 10 per cent reduction in wages for a period of one year. The announcement, issued on October 30, said that "confirmation was given today at the executive offices of the New York Central Railroad to reports that representatives of the various classes of the system's employes are engaged in discussions with a view to the entire personnel voluntarily taking a 10 per cent pay reduction for a period of one year."

Toronto-Montreal Through Service Seventy-five Years Old

Seventy-five years ago on October 27 the first train between Montreal and Toronto operated over lines which are now part of the Canadian National. Trains had previously operated between Point St. Charles station in Montreal and Brockville, and between Brockville and Belleville, but the train which operated out of Montreal on October 27, 1856, was the first through train to connect the two growing cities.

At that time the run between Montreal and Toronto required 14 hours; now the International Limited, traversing the same trackage, 334 miles between the two cities, covers the distance in the time of six hours.

Banker Urges Appeal to Courts on Rates

Takes I.C.C. severely to task for low rate of return—Blames managements also

J. S. Bache & Co., members of the New York Stock Exchange, are recommending that railway managements appeal to the courts from the decision of the Interstate Commerce Commission in the rate advance case. This view is forcibly set forth in the Bache Review, a publication issued by the firm, which reads in part as follows:

"In protest against the Commission's decision, the officers and directors of railroads jointly should carry their case to the Supreme Court. The railroad managers have never shown any worthwhile resistance to the rate injustices heaped upon them by the Commission. Because they individually, with some exceptions, own very little, if any, stock in their respective companies—possibly on account of not being able to afford it—is no reason why they should not stand up and fight for the interests of their owners, the security owners, against the oppression of the Commission.

"As trustees for this vast and practically helpless army, they have shamefully neglected their duty in this regard. The present development furnishes a most favorable opportunity to carry the fight for common justice, in behalf of the security holders, to the highest court.

"Is it not possible to find some great railroad leader who is sufficiently unafraid of the Interstate Commerce Commission, to lead in a fight for the railroad security holders?

"What the railroads need is a Ramsay MacDonald.

"And if these officers and directors have not the courage to do this, a suit in behalf of the security holders of railroads should be started and carried to a final issue by the National Association of Owners of Railroad and Public Utilities Securities, Inc."

The statement then quotes from another which the firm issued in 1925, reading as follows:

"The officers and directors of the railroads are trustees for the owners of the roads—namely, the vast army of American railroad security holders. For twenty years or more the interests of those people who put their money into railroad investments have been shoved aside. It has been a period of drastic regulation during which constantly lowering net returns have destroyed the credit of the railroads.

"If we take into account the railway investments of savings banks, insurance companies, and other public institutions, in addition to such investments privately held, there are probably 50,000,000 people in America who are interested. The Interstate Commerce Commission is the most powerful regulating factor, either within or without governmental authority, in the world. It controls the destiny of an industry having a capital investment of upward of 20 billions of dollars and activities which affect every industry and individual in the country. The success or failure of this vast industry and the interests of the millions of security holders in this huge financial enterprise depend primarily upon the acts and influence of this powerful Commission.

"The Commission's most important duty is its control of the rate structure, which means the rates which the carrier receives for its service to the public. It is charged with the duty to protect the carrier's interests, to see that such a rate structure is established as to yield a fair return on the investment. In this duty the Commission has absolutely failed to carry out the intent of the law. It is the one thing that most vitally affects the interests of the railway investor. How long can the basic industry of this country stand this strain upon its resources? How long will the owners of railway properties submit to having their property taken without due process of law? How long will the Commission permit a level of rates to exist that is rapidly crippling the railroads and forcing them into bankruptcy?"

Club Meeting

The Toronto (Ont.) Railway Club will hold its first annual dinner at the Royal York Hotel, Toronto, on Saturday evening, December 12.

Wage Statistics

Class I railways reported to the Interstate Commerce Commission a total of 1,288,074 employees as of the middle of the month of August, a decrease of 14.94 per cent as compared with August, 1930, and of 26.8 per cent as compared with August, 1929. The total compensation was $178,176,420, a decrease of $37,579,860, or 17.42 per cent, as compared with the corresponding month of last year.

Ironton to Abandon Passenger Service

The Detroit, Toledo & Ironton has applied to the Public Utilities Commission of Ohio for permission to abandon all passenger train service and conduct the railroad only as a freight carrier. The Official Guide shows one train each way daily except Sunday between Detroit, Mich., and Ironton, Ohio, 362 miles. The four branches are operated for freight service only.

C. & O. Joins in Coal Study

A cooperative arrangement has been effected by the Chesapeake & Ohio and the College of Engineering, University of Kentucky to study the adaptability of coals along the line of the C. & O., for domestic purposes, particularly their adaptability to use in small stokers. The work which contemplates an exhaustive study of coals from sixteen mines is under the general direction of Dean F. Paul Anderson, of the College of Engineering, University of Kentucky.

One Agent for Two Stations

Ira and Marteville, two stations, five miles apart, on the Fair Haven branch of the Lehigh Valley, are to be managed by one agent, the New York State Public Service Commission having authorized this arrangement which will save the road about $1,400 a year. The hours on duty will be the same as at present, 7:30 a. m. to 4:30 p. m., with time out for dinner. Both will be full agency stations. The agent will make his headquarters at Marteville and will go to Ira each day to keep the office open there from 12:45 to 3 o'clock.

Chicago Switching Rates

The Interstate Commerce Commission has re-opened for further hearing the proceeding in which it recently prescribed a revision of switching rates in the Chicago district and will inquire into the relation of the rates and charges for switching in intrastate commerce required by state authority to the rates and charges for like switching in interstate commerce. The case was re-opened on petition of the railroads for the purpose of determining whether the adjustment of the interstate and intrastate rates is unduly preferential of intrastate shippers and traffic or unjustly discriminatory against interstate commerce.

The commission has suspended until December 10 the operation of the new tariff schedules involved.

Barge Line Applications Assigned for Hearing

Applications filed with the Interstate Commerce Commission by the Mississippi Valley Barge Line, seeking authority to operate on the Mississippi river between Cairo and St. Louis, and the American Barge Line, seeking authority to operate on the Ohio and Mississippi rivers between Glassport, Pa., and other points in the Pittsburgh district and New Orleans, have been assigned for hearing at Cincinnati, Ohio, on November 30 before W. N. Brown, assistant director of the commission's Bureau of Traffic. The hearings will be limited to the question of whether the applicants are entitled to certificates. No evidence will be received in the matter of what through routes and joint rates in connection with rail carriers shall be established pursuant to such certificates, if granted.

"The Locomotive on the Railroads' Battlefield"

On Thursday evening, November 12, William C. Dickerman, president of the American Locomotive Company, presented a lecture on The Locomotive on the Railroads' Battlefield at The Franklin Institute, Philadelphia, Pa. Mr. Dickerman discussed and analyzed the persistent struggle of the railroad for continuingly progressive economies and efficiencies and for improved safety and better service, bringing out strikingly the locomotive's part in the struggle. He discussed the railroad's fight against waste and inefficiency and against the constant menace of keener competition by other transportation agencies; elements of political antagonism; excessive taxation, and lack of understanding by the public. Humanized charts were used to portray the history of the railroad, and data concerning railroad mileage and locomotive development, railway operating characteristics, transportation agencies, capital expenditures and freight service were presented.

Pennroad Forwarding Subsidiary Expands

The Commerce Freight Company, a forwarding company operating over the Wabash, has been acquired by the National Freight Company, a subsidiary of the Pennroad Corporation. Following the announcement of the acquisition it was revealed that the National, the Commerce, the Standard Carloading Corporation and other subsidiaries of the National will be merged into a new company to be known as the National Carloading Corporation.

Canadian Express Companies Gain in Truck Competition

A further move in the determined attack which the Canadian railways are carrying into the camps of motor trucking companies, went into effect on November 7 with the establishment of a special rate on express shipments of fruit and vegetables between Winnipeg and Manitoba points. The new tariff compares with motor trucking rates and, in addition, provides for pick-up and delivery with usual rapid express service.

For the past month, special express rates have been in effect on all commodities shipped from Winnipeg to the more important Manitoba centers and, according to C. A. Cunningham, general superintendent of Canadian National Express, those rates have brought a heavy increase in shipments. The new tariff on fruit and vegetables will be given a general trial and, should it prove successful, will be made permanent.

P. & P. U. to Discontinue Passenger Service

The Peoria & Pekin Union has been given permission by the Illinois Commerce Commission to discontinue passenger service between Peoria, Ill., and Pekin, a total of five trains in each direction being involved. The railroad, which is primarily a switching line, has been operating these trains since about 1880. Two motor coach companies now run passenger buses between the two cities over state highways. In addition to this the Chicago & Illinois Midland, the Illinois Central, the Cleveland, Cincinnati, Chicago & St. Louis and the Chicago & Alton have trackage rights over the Peoria & Pekin Union tracks and operate passenger trains between Peoria and Pekin. For some years, the Peoria & Pekin Union was able to absorb losses caused by the operation of passenger trains but during April, June,

July, August and September of this year, the company's revenue from freight and passenger service has not equaled the cost of operation.

Third International Conference on Bituminous Coal

The Third International Conference on Bituminous Coal will be held under the auspices of the Carnegie Institute of Technology at Schenley Park, Pittsburgh, Pa., on November 16-21. The subject of railway fuel will be discussed Wednesday afternoon, November 18, the following papers having been arranged for this session:

Pulverized Fuel for Steam Locomotives, John C. Chapple, consulting engineer, St. Louis, Mo.
Trial and Road Results with Stug Pulverized Fuel Fired Locomotives, Richard O. Roosen, chief engineer, Henschel & Sohn, A. G. Kassel, Germany
Combustibility of Powdered Fuel in the Coal Dust Engine, T. Suwa, engineer, Imperial Japanese Fuel Research Institute, Tokyo
Railway Fuel, H. C. Woodbridge, manager, Rochester & Pittsburgh Coal Company, Rochester, N. Y.
Associated with:
Malcolm Macfarlane, general fuel inspector, New York Central
C. P. Dampman, superintendent fuel conservation, Reading

D. F. Crawford, consulting engineer, Pittsburgh; F. M. Waring, engineer of tests, Pennsylvania, and P. A. Hollar, fuel agent, Pennsylvania, will discuss the papers.

Hydrogen Peroxide Shipped in Tank Car

The first shipment of hydrogen peroxide in tank car quantities has been successfully completed, according to a recent announcement of the General American Tank Car Corporation. The shipment consisted of 8,000 gal. and was sent from Buffalo, N. Y. to a textile mill in North Carolina.

Hydrogen peroxide, formerly known chiefly as a mouth wash, of late has been in demand as a bleaching agent, the only limiting factor being transportation costs. Until this tank car shipment was made, the practice has been to ship it in crated heavy-glass bottles holding 13 gallons and weighing empty approximately 100 lb. each. With this specially constructed tank car, the hydrogen peroxide is poured through an opening at the top and pumped out into storage tanks at destination with slight labor involved.

The tank car which makes possible the economical shipment of peroxide is constructed of a special aluminum from which all traces of copper and manganese have been eliminated.

Atlanta Hearings on Fuel Practices

Hearings in connection with the Interstate Commerce Commission's investigation of railway fuel practices (Ex-Parte 104, part 1) which opened at Norfolk, Va., on October 28, were continued at Atlanta, Ga., with sessions opening in that city on November 4. Examiner Charles A. Berry is presiding, while the cross-examination of railway witnesses is being conducted by I.C.C. Attorney M. C. List.

Opening sessions at Norfolk were reported in the *Railway Age* of November 7, page 709. Railroads scheduled to appear at the Atlanta hearings are as follows: Southern; Cincinnati, New Orleans & Texas Pacific; Alabama Great Southern; Northern Alabama; Georgia Southern & Florida; New Orleans Terminal; Columbus & Greenville; Mobile & Ohio; Atlantic Coast Line; Atlanta & West Point; Georgia; Western of Alabama; Atlanta, Birmingham & Coast; Charleston & Western Carolina; Clinchfield; Nashville, Chattanooga & St. Louis; Tennessee Central; Gulf, Mobile & Northern; New Orleans Great Northern; Mississippi Central; Georgia & Florida, and Central of Georgia.

Regional Plan of New York Proposes Union Terminal at Mott Haven

The rehabilitation of the Manhattan and Bronx areas of New York City on both sides of the Harlem river, involving the construction of 11 bridges, most of them during the next 10 years; a union railway terminal, and two-level development of both banks of the river, was proposed recently by the Regional Plan of New York.

"In order to take advantage of the strategic situation of the Harlem valley in relation to New York City," the proposal reads, "a new 'Grand Central' subterminal should be built at Mott Haven and a civic and business center developed adjacent to the lower end of the Grand Boulevard and Concourse. Perhaps the chief controlling element is the railroad development. It is our belief that in course of time the Mott Haven terminal will be one of the great terminals of the city. A great tower is suggested in the design for the terminal. This would be on the axis of Third avenue extended, and also on the axis of the proposed roadway to connect with 125th street and the Hudson river. From the north it would be on the axis of Sherman avenue. The building would be a union passenger terminal with office space in the upper floors, and would form one of the principal transportation centers in the series of terminals shown on the graphic Regional Plan."

A. R. A. Annual Meeting

The annual meeting of the American Railway Association was held at the Blackstone Hotel, Chicago, on November 4, the business considered being the approval of the budget for 1932 and the reports of chairmen of the various divisions and sections of the association. All officers of the association were re-elected, these being president, R. H. Aishton; executive vice-president, M. J. Gormley; first vice-president, W. G. Besler, chairman of the board of the Central of New Jersey; second vice-president, Hale Holden, chairman of the executive committee of the Southern Pacific; general counsel, Alfred P. Thom; and secretary and treasurer, H. J. Forster.

The reports dealt with the progress made during the past year. In addition the directors reported upon the research and standardization activities being conducted by the association. In connection with this report, a letter was read from Commissioner Joseph B. Eastman of the Interstate Commerce Commission, who outlined the desirability of co-operation among the railroads in all matters where their special interests are not in conflict. The report also embodied Mr. Aishton's reply to Mr. Eastman and indicated what the railroads have already done to harmonize and co-ordinate the principles and practices of American railroads with respect to their construction, maintenance and operation.

Commission Allows Hearing on Four-System Plan

The Interstate Commerce Commission on November 9 announced a re-opening of its consolidation proceeding, No. 12,964 for further hearing on the application filed with it on October 3 by the Baltimore & Ohio, the Chesapeake & Ohio, the New York Central and the Pennsylvania for a modification of the commission's plan of December, 1929, to provide for the four-system plan of grouping the eastern railroads except those in New England. The hearing is to be held at Washington beginning on January 6 before Commissioner C. R. Porter and Examiner Irving L. Koch.

According to the commission's order the further hearing will be held for the purpose of affording applicants and any others interested an opportunity to be heard for or against the application, or upon matters properly connected therewith, "with the view of determining if and to what extent the plan of the commission should be modified, and of making such order or orders, or supplemental order or orders, in the premises as may be deemed by the commission to be necessary." It had been reported that Commissioner Eastman and some others had taken the position that the application for a modification could not be entertained unless accompanied by specific applications for authority to acquire control of the roads involved together with the proposed terms and conditions.

Unified National Rail System Proposed

Formation of a "Railway Corporation of America" for the purpose of unifying all of the country's railroads into one integrated system was advocated by Nathan L. Amster, president of the Citizens' National Railroad League, Inc., in a statement issued on November 4.

Features of the proposal are the management of the corporation by a board of governors representing security holders, shippers, labor and the public; the incorporation of the company under a Federal charter to absorb the equities of all the railroads in the United States, subject to the outstanding bonds; and a plan of capitalization whereby all bonds outstanding would remain in the hands of holders until maturity, but an issue would be made of $10,000,000,000 5¼ per cent non-maturing proprietary certificates in exchange for the preferred and common stocks of railroads which the company would acquire.

Other details call for Federal supervision of the corporation's board, operation of the railroads under a unified company in regional divisions, elimination of duplications in service, reduction in over-

head expenses, and the lowering of interest rates on railroad borrowings.

"As underlying bonds mature, the unified company would issue its own bonds under a blanket mortgage on its entire property. These bonds, because of the tremendous resources behind them, would command a low interest rate, and prove an attractive financing medium," Mr. Amster said.

"The Interstate Commerce Commission has recognized the necessity of leveling out railroad income and has attempted to accomplish it through pooling of added revenue," he continued. "This, however, does not by any means solve the problem, although it points the way.

"Carrying out the I.C.C. proposal to its logical limit, the effective solution clearly is the consolidation of all the railroads in the country—weak or strong alike—into one sturdy, unified system."

Shippers Support Waterway Project

Support of leading shippers in the Pittsburgh and Youngstown industrial districts has been thrown behind the movement to deepen the Mahoning, Shenango and Beaver rivers for slack water navigation, says a recent dispatch from Youngstown, Ohio, to the Wall Street Journal. These shippers presented their arguments at a public hearing at Youngstown, before Major W. D. Styer, Pittsburgh district engineer, and his staff.

The proposed plan, for which army engineers have completed a survey, is intended to result in a 9 to 12-foot channel in the Mahoning river from the Ohio river to Warren, O., and dredging of a similar channel in the Beaver and Shenango rivers.

Copies of the army engineers' report, expected by proponents to show that the Mahoning-Beaver-Shenango canalization will bring a great increase in existing Ohio river traffic, will be made public on or about December 1. Prior to that time the plan will be made available to the Pennsylvania, New York Central and Baltimore & Ohio. The carriers have asked additional time to study effects of the canalization and will file their statements soon, Major Styer stated.

The river canalization is regarded as the first step in the building of a canal from Warren, O., to Lake Erie, connecting with the deepened Mahoning river north of Warren and providing a water connection between the Ohio river and Lake Erie.

Program Annual Meeting A.S.M.E.

The annual meeting of the American Society of Mechanical Engineers will be held at the Engineering Societies building, New York, November 30 to December 4, inclusive. Honorary membership in the society will be conferred upon Dr. Palmer Chamberlain Ricketts on Tuesday evening, December 1, when Dr. Roy V. Wright, president and managing editor of the *Railway Age* will also address the meeting. The Towne and Thurston Lectures will both be given at the meeting for the first time in several years. The Towne Lecture, which deals with the relationship between economics and engineering, will be delivered by Dean W. B. Donham of the Graduate School of Business Administration, Harvard University. The Thurston Lecture will be delivered by Dr. Edward L. Thorndike, professor of education at Teachers College, Columbia University, whose subject will be Psychology and Engineering. An interesting program resulting from the past year's study by the Committee on the Economic Status of the Engineer will be presented on Tuesday afternoon, December 1, and the series of talks on How To Talk with an Audience which was presented last year will be repeated at 8:50 a. m. on Tuesday, Wednesday and Thursday, December 1, 2 and 3, respectively, by Dr. S. Marion Tucker of the Polytechnic Institute of Brooklyn. The technical program in part is as follows:

MONDAY, NOVEMBER 30

Evening

Exhibition of Art by Engineers.

TUESDAY, DECEMBER 1

Morning Session

Applied Mechanics and Railroads

Air Resistance of High-Speed Trains and Interurban Cars, O. G. Tietjens and K. C. Ripley.

Stresses in Railroad Track, S. Timoshenko and B. F. Langer.

Report of Railroad Division (by title).

Afternoon Session

Address by Frances Perkins on "State Labor Departments and Professional Engineers—Co-operation Essential to Progress in Accident Prevention."

Report of Committee on Economic Status of the Engineer.

WEDNESDAY, DECEMBER 2

Morning Session

Stabilization Symposium—Jointly with A. M. A.

Business Stabilization with addresses on the following phases: Economical, Dr. Virgil Jordan; Industrial, Jas. W. Hook; Financial, author to be announced.

Progress Report of Management Division (by title).

THURSDAY, DECEMBER 3

Afternoon Session

Boiler Feedwater Studies

Determination of Carbonate, Hydroxide and Phosphate in Boiler Waters, Progress report of Sub-Committee No. 8, W. C. Schroeder and C. H. Fellows.

Foaming and Priming of Boiler Water, C. W. Foulk.

The SO_4/CO_2 Ratio for the Prevention of Sulphate Boiler Scale, Everett P. Partridge, W. C. Schroeder and R. C. Adams, Jr.

Labor Executives to Propose Legislation

The Railway Labor Executives' Association concluded its four-day meeting in Washington on November 5 after agreeing on several features of its legislative program for the coming session of Congress, including a plan for retirement insurance, but leaving several features of its program for consideration at another meeting to be held before Congress convenes. No announcement was made as to the details of the bill which the executive committee had been directed to prepare to provide for a shorter workday and work-week, although it is understood that proposals on the basis of a six-hour day and five-day week were discussed in connection with the request which was sent to the railway executives for a joint conference.

A committee has been working on the pension plan for months, assisted by Donald R. Richberg, counsel, and an actuary, and although some of the details of the plan are as yet to be completed it was announced that a general agreement was reached on a plan providing for the creation of a national pension fund, to be supported by voluntary contributions from employer and employee, under which the individual employee would acquire a vested interest in his proportion of the fund which could be maintained and enforced by him or his beneficiary as in the case of insurance funds. It was also decided to ask for legislation to amend the hours of service law so as to reduce the maximum period for trainmen from 16 to 12 hours and for train despatchers from 9 to 6 hours and a federal full-crew law. The executives also reiterated their previous stand on the subject of railway consolidations, insisting on the protection of the interests of the employees.

In reply to the request for a joint conference with the executives telegrams were received from J. W. Higgins and W. R. Cole stating that meetings of the western and southern executives would be called to consider the proposal and from L. F. Loree referring the matter to the Bureau of Information of the Eastern Railroads.

The report of the meeting of the labor executives published in their newspaper "Labor" stated that "after a year of debate the committee of 35, appointed at a Chicago meeting last November and representing the engineers, firemen, conductors, trainmen, and switchmen, had come to an understanding concerning hours of labor," and that "their program would fit into that already formulated by the other 16 standard railroad unions."

Appoint Wage Board in Canada

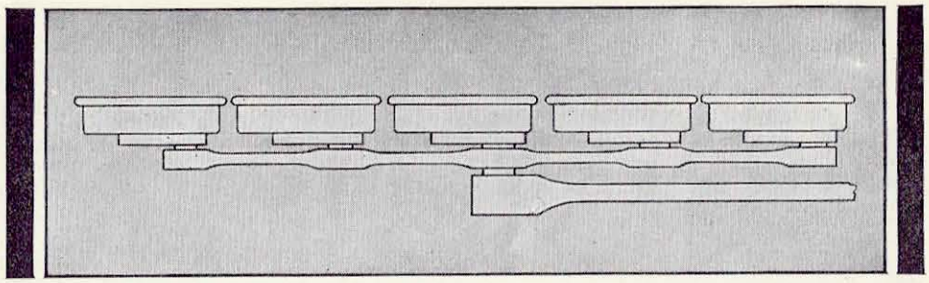
It was announced last week at the Department of Labor in Ottawa that [illegible] representatives nominated by the "running trades" employed by the Canadian railways to represent them on the proposed board of conciliation to consider the application of the railways for a 10 per cent reduction in wages is Dr. J. C. Hemmeon, of McGill University, Montreal. The representative chosen by the railways is Isaac Pitblado, K.C., of Winnipeg. The third member of the board, who will act as chairman is James MacDonnell of Toronto. Nearly 40,000 employees are involved.

Since the beginning of the great war there have been five major wage alterations among employees on the Canadian railways. In 1918 there was the "McAdoo award," the purpose of which was to bring their wages in line with the enhanced cost of living due to the war, and the average increase was equivalent to about 40 per cent, although the actual increases in wages were on a flat rate basis rather than on a percentage basis. Then in 1920 came another increase, through the "Chicago award," of some 20 per cent.

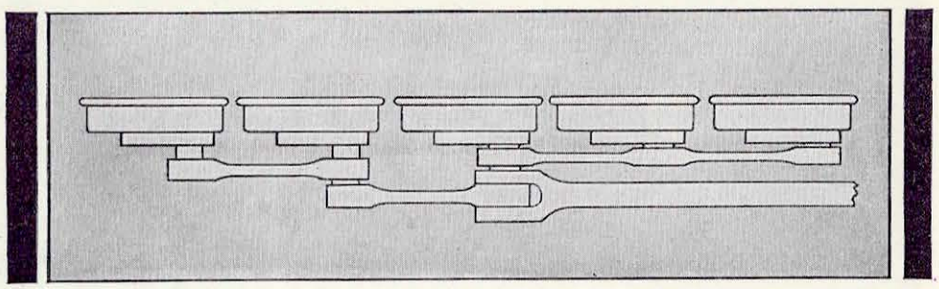
In 1921 the reverse movement in the matter of wages began, and in that year the railways reduced wages in train and engine service by 10 per cent. In the following year a similar reduction of 10 per cent was made in the wages of the shop crafts, maintenance of way men and clerks, but there was an upward movement in 1926 when at the time of the so-called "New York award" the

Continued on Second Left Hand Page

The expense incident to the operation of a locomotive with the old style design at right amounted to $0.012 per mile for material, $0.006 per mile for labor, or a total of $0.018 per mile for maintenance of rods and bushings. During the period of operation, the investment expense in the locomotive amounted to $0.238 per mile.



With Tandem Main Rod design, the expense incident to the operation amounted to $0.002 for material, $0.001 for labor, or a total of $0.003 per mile for maintenance of rods and bushings. During the period of operation, the investment expense in the locomotive amounted to $0.196 per mile.



TANDEM MAIN ROD DRIVE

Reduces Maintenance A Third

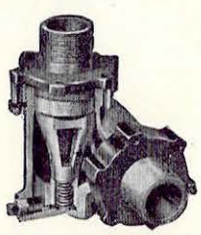
TO find out exactly what savings in maintenance expense Tandem Main Rod Drives could effect, a large eastern railroad ran a full year's test.

Two 2-10-2 locomotives of the same type, one with the old style main rod drive, the other equipped with Tandem Main Rod Drive made 30,300 and 36,800 miles respectively during the year. The railroad kept accurate records of both material and labor used for maintenance.

Tandem Main Rod Drive reduced the expense of maintaining rods and bushings from $0.018 per mile to $0.003, saving $0.015 per mile and reducing expense 83.3%.

Because the locomotive with Tandem Main Rod Drive required no rod maintenance, the investment expense was lowered from $0.238 to $0.196 per mile, saving $0.042 per mile, or a reduction of 17.7%.

Tandem Main Rod Drive distributes piston thrust through two axles and four outside main crank pins. It keeps the locomotive running for much longer periods without maintenance and pays for itself quickly.



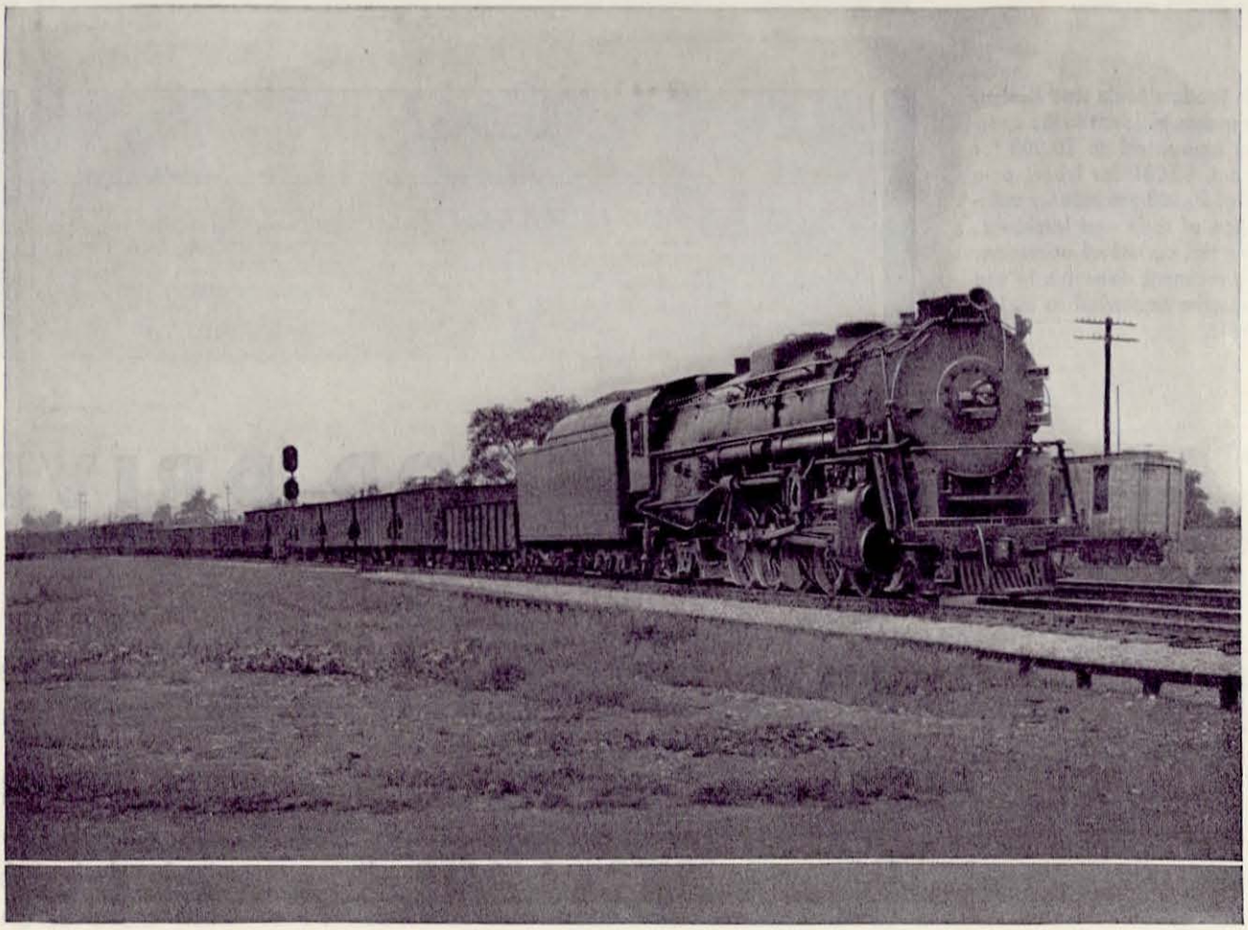
THE FRANKLIN SLEEVE JOINT

Uses flat gaskets—the cheapest to buy when replacement is necessary

FRANKLIN RAILWAY SUPPLY CO., INC.

NEW YORK CHICAGO SAN FRANCISCO ST. LOUIS MONTREAL

MODERN MOTIVE POWER



LIMA LOCOMOTIVE WORKS, Incorporated

LIMA • OHIO

helped the C. & O.

- lower their operating ratio
- improve fuel performance
- increase net tons per train

A study of operating statistics for a recent period compared with the same period last year, shows that the Chesapeake & Ohio made the following remarkable record:

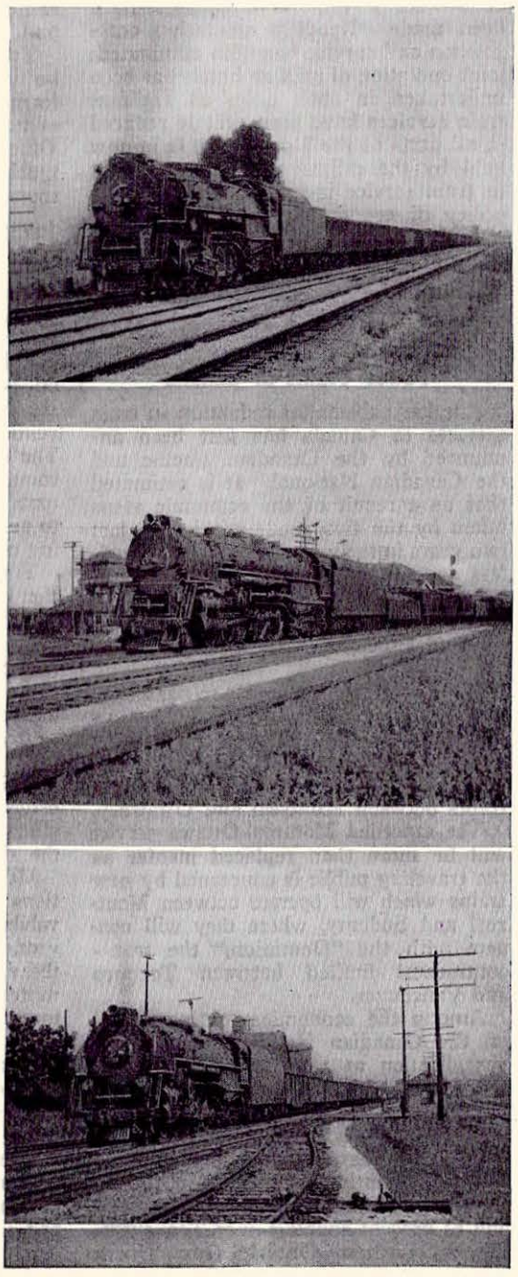
1. It showed a gain of 8% in net tons per train;
2. It recorded an increase of 10.6% in gross ton miles per train hour;
3. It showed a 9% decrease in unit coal consumption;
4. It recorded an operating ratio of 57.6%;
5. It reduced locomotive miles per locomotive day by 24.5%.

All credit to the splendid organization that performed so effectively and to the management that gave it efficient working tools!

Foremost among these tools are 40 Lima-built Super-Power Locomotives, the most powerful two-cylinder locomotives ever built.

With such modern motive power, train speeds were substantially increased and heavier trains hauled at lower cost.

It is significant that the roads making the best showing even in these days of low traffic are those pursuing a progressive motive power policy.



LIMA LOCOMOTIVE WORKS INCORPORATED

wage basis of the Canadian roads was raised about six per cent.

This move of the railways to reduce the wages in train and engine service by 10 per cent would bring these employees into line with those employed in the offices of the Canadian National whose salaries were reduced by that amount early in the spring; and a similar step was taken by the Canadian Pacific.

The railways have made valiant efforts to effect economies and by joint action many important savings have been made. Needless steamship competition and service has been eliminated; joint operation of railway hotels has been undertaken in such cities as Halifax; train services have been greatly reduced in all parts of the Dominion. It is now held by the railways that a wage cut in train service is inseparable from the policy of economies so vigorously applied in other parts of the service. The employees, on the other hand, are contending that their wages are now seven per cent under those of men similarly employed on United States lines.

Fewer Trains in Canada

Another substantial reduction in train services in Canada has just been announced by the Canadian Pacific and the Canadian National. It is estimated that as a result of the economic steps taken by the two roads within the last two years in the way of eliminating needless or uneconomical train services they have made a monetary saving of over $10,000,000 annually. Between 12,000,000 and 15,000,000 passenger train-miles have been cut off.

The forthcoming changes in passenger train schedules on the C. P. R. involve the cancellation of the trains now operating each way between Montreal and Sault Ste. Marie, Michigan, and two trains between Montreal and Ottawa.

The cancelled Montreal-Ottawa service will be more than replaced insofar as the traveling public is concerned by new trains which will operate between Montreal and Sudbury, where they will connect with the "Dominion," the transcontinental limited between Toronto and Vancouver.

Among the economies to be effected on the Canadian National will be the consolidation at Capreol of the Montreal-Vancouver and Toronto-Vancouver trains and a reduction in running time between Montreal and Prairie Provinces and Pacific coast points. Trains No. 1 and 2, the Continental Limited, operating daily between Montreal and Vancouver, and at present running over Temiskaming & Northern Ontario from North Bay to Cochrane, Ont., will after November 22, operate via North Bay and Capreol and via the Long Lac cutoff to Winnipeg. Trains No. 3 and 4, now operating daily between Toronto and Vancouver will be consolidated with the Continental Limited at Capreol. The Continental Limited under the amended schedule will leave Montreal at 7.15 p.m. daily, arriving at Winnipeg at 9.15 a.m. on the second day and reaching Vancouver nine hours quicker than on the present schedule. Eastbound, the Continental Limited will leave Vancouver at 8.45 a.m. reaching Winnipeg at 5.55 p.m. and Montreal at 11.45 a.m. This provides a reduction in running time of 6 hours and 50 minutes eastbound.

Between Montreal and Toronto, two local day trains are being withdrawn and also two night trains. Traffic formerly handled on the 11 o'clock and 11.59 trains in each direction daily will be consolidated in one late train leaving Toronto and Montreal respectively at 11.30 p.m.

Two Montreal-Ottawa trains also will be withdrawn, their work being performed by the operation of the Continental Limited on its new time schedule. Other reductions affect Montreal-Quebec, Winnipeg-Duluth and Saskatoon-Edmonton service.

Investment Bankers Urge Emergency Cut in Railway Wages

A reduction of railway wages "commensurate with the decline in the cost of living" was urged in a special report covering the whole railroad situation presented on November 9 before the Investment Bankers Association of America in convention at White Sulphur Springs, W. Va. The report, prepared by the Association's committee on railroad securities, also recommended the creation of a national fund to assist the railroads in financing maturing obligations.

The recommendations for the reduction in wages and the establishment of the national fund, pending restoration of earning power sufficient to permit public financing, were approved by the convention. The roads, according to the committee, have reached the limit of their resources in endeavoring to effect economies in other directions. Further economies in the maintenance of physical properties, it was declared, would create a situation "fraught with danger both for the shippers and the public."

Making it clear that the wage reductions and the creation of a national revolving fund would be emergency measures, designed to maintain the credit of the railroads during the crisis, the committee recommended, as a step looking toward a permanent solution of the railroad problem, "greater freedom to the railroads to meet effectively, by rate changes, the competition of other forms of transportation."

On this score, the committee suggested the appointment of a commission to study the problem of competition and to suggest measures designed for its regulation and coordination.

Denying the charge that overcapitalization is one of the causes of the present financial difficulties of the railroads, the committee declared that, from 1911 until 1930, the capitalization has been increased about 22.5 per cent, or about $3,500,000,000 whereas the amount put back into road and equipment has been nearly 78 per cent, or more than $11,000,000,000. Thus the committee explained, a net was left which might have been turned over to the stockholders in dividends.

Reduction of "unnecessary" passenger facilities, the report says, could be effected, with resultant substantial economies, with the cooperation of the Interstate Commerce Commission.

In the matter of competing agencies, it was pointed out that the decline in the volume of railroad traffic since 1920 has been greatly accentuated by increasing competition from other transportation facilities. The report declared that undue emphasis has been placed on the relatively small amount of traffic diverted from railroads without taking into consideration the serious effect that this competition has had on the entire rate structure.

Railway Executives Called to Meet in New York

A meeting of the Advisory Committee of the Association of Railway Executives has been called to be held in New York on Thursday of this week to consider the plan for complying with the Interstate Commerce Commission's suggestions for the pooling of a temporary freight rate increase, but on a loan basis, as drafted by sub-committees at Washington following the meetings of the Advisory Committee there on October 28 and 29. The plan was then to be considered at a meeting of the member roads on Friday with a view to submitting it to the commission for its approval.

While the association meetings were called to deal only with the pooling proposals it was expected that an opportunity would be afforded at the same time for consideration in separate meetings of the request of the Railway Labor Executives' Association for a joint conference with the railway executives to discuss "any proposal affecting railway operation which railway managements desire to advance," understood to mean the question of wage reductions; and "any proposals, including present and future relief of unemployment and stabilization of employment," which the labor organizations desire to advance, understood to mean their proposals for a shorter work-day and work-week. This request addressed to R. H. Aishton, chairman of the Association of Railway Executives, was referred by him to the regional conferences of railway executives, since the Association of Railway Executives is not authorized to handle wage matters, and the chairmen of the regional organizations have advised the labor leaders of their intention to consider the proposal.

Mr. Aishton, in his telegram to Mr. Robertson on November 3 said that he had referred the request to the regional executives' organizations "with the request that they give the matter immediate consideration and advise you regarding the proposed conference concerning the question of wages and working conditions." "The Association of Railway Executives as such, as you know," he said, "has no jurisdiction over these two questions but realizes its responsibility in assisting in every way in promoting the general welfare and aiding in the restoration of prosperity. As heretofore advised, Alfred P. Thom, general counsel of the association, and the undersigned, were authorized as a committee to confer with committees of

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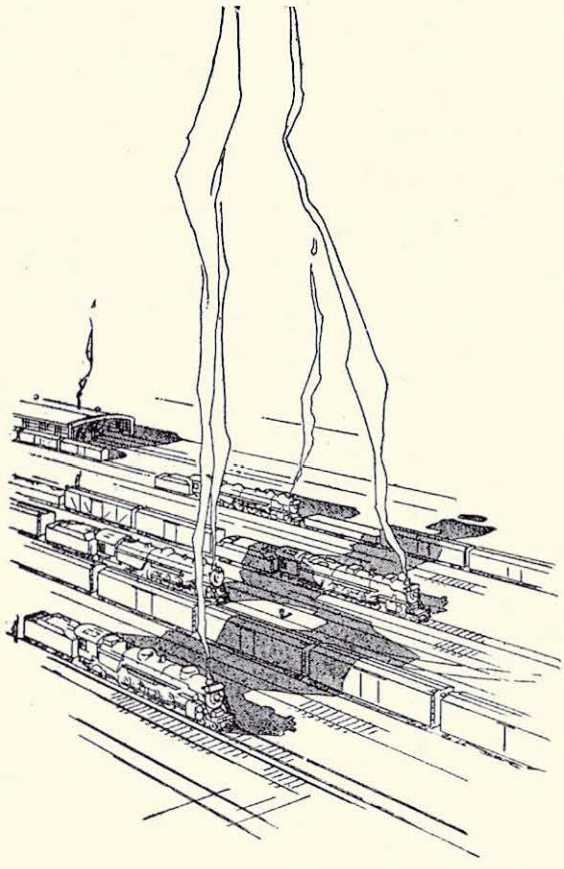
THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

Bringing to the Railroads the Country's Finest Arch Brick

BECAUSE they recognize that there is more to a satisfactory Arch Brick supply than just Arch Brick itself, the following leading refractory manufacturers serve the railroads thru the American Arch Company exclusively:



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LOCOMOTIVE COMBUSTION SPECIALISTS

NEW YORK CHICAGO

your association on matters other than those involving wages and working conditions, and this is to advise that I will be glad to arrange such a conference any day after my arrival at Washington on Friday of this week."

Various estimates have been made of the proportion of the proposed rate increase, which the commission estimated at $100,000,000 to $125,000,000, which would be required to meet the deficiencies of various roads as compared with their interest requirements. Actual deficiencies have been estimated at $75,000,000 to $80,000,000, but the amount of the demands which would be made upon the pool according to the outline of the plan as given by the commission in its report would be reduced considerably in instances where the parent or other company in a system would be able to provide in some way funds needed to meet the interest requirements of affiliated companies. The commission said that appropriate provisions should be made as to the accounts of carriers reporting separately but operated as part of a system, and on this basis the deficiency under interest charges has been estimated as low as about $40,000,000.

Operating Revenues and Operating Expenses of Class I Steam Railways in the United States

Compiled from the Monthly Reports of Revenues and Expenses for 171 Steam Railways, Including 17 Switching and Terminal Companies.

FOR THE MONTH OF SEPTEMBER, 1931 AND 1930

Item	United States		Eastern District		Southern District		Western District	
	1931	1930	1931	1930	1931	1930	1931	1930
Average number of miles operated	242,908.56	242,669.68	60,233.34	60,334.02	46,161.12	46,120.13	136,514.10	136,215.53
Revenues:								
Freight	$270,238,968	$363,447,506	$110,979,051	$145,584,526	$49,424,551	$62,425,835	$109,835,366	$155,437,145
Passenger	44,756,826	59,092,691	26,571,815	34,146,671	4,533,422	6,331,329	13,651,589	18,614,691
Mail	8,329,546	8,742,193	3,279,072	3,347,886	1,368,828	1,435,080	3,681,646	3,959,227
Express	6,761,869	9,969,188	3,351,832	4,764,988	891,027	1,253,547	2,519,010	3,950,653
All other transportation	11,811,198	15,130,448	6,771,259	8,806,401	897,641	1,090,334	4,142,298	5,233,713
Incidental	7,767,782	10,330,740	3,966,745	5,328,612	944,745	1,103,547	2,856,292	3,898,581
Joint facility—Cr.	922,824	1,093,565	290,541	368,619	153,936	188,018	478,347	536,928
Joint facility—Dr.	254,439	269,198	76,153	77,490	25,970	40,339	152,316	151,369
Railway operating revenues	350,334,574	467,537,133	155,134,162	202,270,213	58,188,180	73,787,351	137,012,232	191,479,569
Expenses:								
Maintenance of way and structures	43,298,862	59,210,596	18,723,642	26,325,301	8,537,016	9,439,366	16,038,204	23,445,929
Maintenance of equipment	64,193,807	80,847,578	29,817,505	37,834,791	11,910,535	13,860,255	22,465,767	29,152,532
Traffic	9,140,848	10,270,160	3,634,965	4,018,402	1,640,010	1,964,045	3,865,873	4,287,713
Transportation	124,130,003	151,176,114	58,529,055	70,535,283	19,650,974	23,267,307	45,949,974	57,373,524
Miscellaneous operations	3,374,413	4,229,164	1,638,048	1,986,556	326,770	397,115	1,409,595	1,845,493
General	14,779,250	15,570,601	6,483,717	6,800,732	2,586,387	2,621,672	5,709,146	6,148,197
Transportation for investment—Cr.	694,569	1,148,784	144,141	213,630	67,550	101,452	482,878	833,702
Railway operating expenses	258,222,614	320,155,429	118,682,791	147,287,435	44,584,142	51,448,308	94,955,681	121,419,686
Net revenue from railway operations	92,111,960	147,381,704	36,451,371	54,982,778	13,604,038	22,339,043	42,056,551	70,059,883
Railway tax accruals	26,369,160	31,666,107	11,830,596	13,232,675	4,325,188	5,552,400	10,213,376	12,881,032
Uncollectible ry. revenues	67,321	68,023	22,456	24,537	10,783	10,421	34,082	33,065
Railway operating income	65,675,479	115,647,574	24,598,319	41,725,566	9,268,067	16,776,222	31,809,093	57,145,786
Equipment rents—Dr. balance	7,744,944	8,732,332	4,176,850	4,156,384	d 227,298	d 445,963	3,795,392	5,021,911
Joint facility rent—Dr. balance	2,611,945	2,480,464	1,500,080	1,445,458	271,153	115,044	840,712	919,962
Net railway operating income	55,318,590	104,434,778	18,921,389	36,123,724	9,224,212	17,107,141	27,172,989	51,203,913
Ratio of expenses to revenues (per cent)	73.71	68.48	76.50	72.82	76.62	69.73	69.30	63.41

FOR NINE MONTHS ENDED WITH SEPTEMBER, 1931 AND 1930

Average number of miles operated	242,873.53	242,675.50	60,283.53	60,349.10	46,133.55	46,135.61	136,456.45	136,190.79
Revenues:								
Freight	$2,514,335,705	$3,107,900,590	$1,059,461,264	$1,327,045,879	$477,747,375	$569,805,486	$977,127,066	$1,211,049,225
Passenger	436,375,154	573,118,306	249,462,373	314,971,234	53,430,538	75,055,908	133,582,243	183,091,164
Mail	77,824,458	81,989,451	30,057,582	31,318,224	13,109,880	13,711,122	34,656,996	36,960,105
Express	64,562,703	87,061,122	28,239,598	39,145,177	10,458,402	12,698,718	25,864,703	35,217,227
All other transportation	109,751,262	136,154,914	63,675,180	79,429,718	8,226,629	9,941,913	37,849,453	46,783,283
Incidental	70,287,197	90,001,331	37,124,441	46,396,782	9,714,630	11,896,799	23,448,126	31,707,750
Joint facility—Cr.	8,697,041	9,937,995	2,776,902	3,371,641	1,562,005	1,769,437	4,358,134	4,796,917
Joint facility—Dr.	2,527,232	2,830,619	679,148	851,448	228,623	308,223	1,619,461	1,670,948
Railway operating revenues	3,279,306,288	4,083,333,090	1,470,018,192	1,840,827,207	574,020,836	694,571,160	1,235,267,260	1,547,934,723
Expenses:								
Maintenance of way and structures	428,681,334	562,058,120	180,907,641	235,953,574	80,812,129	98,158,531	166,961,564	227,946,015
Maintenance of equipment	640,866,255	790,606,579	297,173,403	366,219,674	115,797,503	141,754,720	227,895,349	282,632,185
Traffic	89,578,330	98,134,506	34,786,008	37,552,668	16,507,113	18,109,389	38,285,209	42,472,449
Transportation	1,199,745,647	1,425,305,235	566,049,367	671,310,509	196,660,997	228,237,478	437,035,283	525,757,248
Miscellaneous operations	32,431,281	40,621,849	15,737,567	19,057,017	3,747,949	4,807,629	12,945,765	16,757,203
General	138,895,007	146,133,978	60,651,356	64,066,039	24,289,533	24,718,967	53,954,118	57,348,972
Transportation for investment—Cr.	5,654,962	9,887,393	1,051,531	1,957,096	666,465	862,219	3,936,966	7,068,078
Railway operating expenses	2,524,542,892	3,052,972,874	1,154,253,811	1,392,202,385	437,148,759	514,924,495	933,140,322	1,145,845,994
Net revenue from railway operations	754,763,396	1,030,360,216	315,764,381	448,624,822	136,872,077	179,646,665	302,126,938	402,088,729
Railway tax accruals	246,523,010	275,483,813	100,762,940	114,008,829	45,821,726	51,449,754	99,938,344	110,025,230
Uncollectible ry. revenues	599,012	731,293	214,388	289,062	130,233	125,128	254,391	317,103
Railway operating income	507,641,374	754,145,110	214,787,053	334,326,931	90,920,118	128,071,783	201,934,203	291,746,396
Equipment rents—Dr. balance	76,602,262	72,801,145	38,203,806	36,780,699	4,364,107	775,535	34,034,349	35,244,911
Joint facility rent—Dr. balance	23,379,045	20,442,930	13,008,995	10,543,755	2,483,567	2,056,466	7,886,483	7,842,709
Net railway operating income	407,660,067	660,901,035	163,574,252	287,002,477	84,072,444	125,239,782	160,013,371	248,658,776
Ratio of expenses to revenues (per cent)	76.98	74.77	78.52	75.63	76.16	74.14	75.54	74.02

d Deficit or other reverse items.

Compiled by Bureau of Statistics, Interstate Commerce Commission. Subject to Revision.

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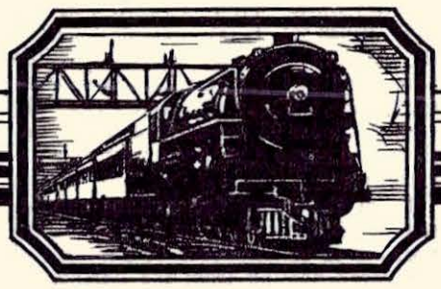

Alco Alco

TO ECONOMIZE— MODERNIZE

Locomotives in service on Class 1 lines numbered 55,600 in 1930.

On the assumption that 45,000 modern locomotives, properly distributed, would be a sufficient inventory, a 25 year replacement program would call for 1800 new locomotives per year.

But for the last five years, 1927-1931, orders for new locomotives have averaged approximately 600 per year. At this rate the replacement of 45,000 locomotives will take 75 years.

And the inventory starting out is already 80 per cent over 10 years old and 45 per cent over 20 years old.

Sooner or later a greater proportion of the money spent for improvements must be allotted to new locomotives. Otherwise, a bad condition is rapidly going to get much worse.

American Locomotive Company
30 Church Street New York N.Y.

Alco Alco

The commission also said that the amount of the rate increase if pooled should cover deficiencies in interest with a "substantial balance" left over and on the basis of either estimate a considerable balance would be left, providing the rate increase should amount to anything like the estimate, which would help some of the larger roads handling the greatest volume of traffic toward attaining the margin of one and one-half times fixed charges set by the New York law and thus prevent some roads near the dividing line from having their bonds removed from the legal list. The commission's report said that at the end of an appropriate interval any balance remaining in the pool fund should be distributed to the carriers in the proportions in which earnings accruing on their properties have contributed to it. Any such distribution, however, would not be in proportion to need but in proportion to the volume of freight traffic.

Under the theory on which the railroads have been working of treating the rate pool as a loan the receipts from the rate increase would become net income for most roads and would thus be subject to income taxes. Under the theory on which the plan was proposed by the commission, that the roads collecting the rate increase surcharge would be merely trustees for the amounts collected, that point was not covered in so far as anything said by the commission is concerned, unless by its statement that the funds should be "ear-marked," and some roads are understood, to have feared that they might have to pay income taxes on receipts collected from shippers as reasonable rates without being allowed to retain the money.

Panama Canal Traffic

Cargo movement through the Panama canal during the fiscal year ended June 30, 1931, was the lowest in any fiscal year since 1925, when 23,958,836 tons passed through, according to the Panama Canal Record. Corresponding movements during the past four years amounted to 29,630,709 tons in 1928, 30,663,006 tons in 1929, 30,030,232 tons in 1930, and 25,082,800 tons in 1931.

During the fiscal year 1930-31, 65.8 per cent (4,395,413 tons) of the Pacific-bound cargo passing through the canal criginated on the eastern and Gulf seaboards of the United States, and 23.8 per cent (1,591,066 tons) in Europe. During the past four fiscal years these areas have contributed over 90 per cent of the cargo moving in this direction. Four areas absorbed all this cargo, as follows: West coast of North America, 54 per cent (3,603,203 tons); Asia, 21.3 per cent (1,425,570 tons); South America, 13.1 per cent (874,465 tons); and Australasia, 11.6 per cent (777,191 tons).

Cargo bound from the Pacific to the Atlantic during the fiscal year 1930-31 originated in four regions, as follows: West coast of North America, 65.8 per cent (12,108,625 tons); west coast of South America, 23.8 per cent (4,383,104 tons); Asia, 5.7 per cent (1,047,817 tons); and Australasia, 4.7 per cent (862,825 tons). Of this cargo, 54.1 per cent (9,948,511 tons) was destined to the eastern seaboard of the United States and 39.4 per cent (7,257,459 tons) to Europe. These two areas have absorbed almost 93 per cent of the Atlantic-bound cargo during the past four fiscal years.

From the cargo declarations submitted by masters of vessels it has been possible to classify over 86 per cent of the cargo passing from the Atlantic to the Pacific, and over 98 per cent of that passing from the Pacific to the Atlantic.

Cargo from the Atlantic to the Pacific during the year decreased by 2,795,296 tons, or 29.5 per cent, in comparison with the fiscal year 1930, and by 3,202,091 tons, or 32.4 per cent, in comparison with 1929 (which established the high record for a year's cargo tonnage Pacific bound). Cargo tonnage in this direction was the lowest for any fiscal year since 1922, when 5,495,934 tons were carried through. Among the 18 commodities shown in a detailed tabulation, only one increase occurred—in cotton—which expanded by 50,532 tons, or 20.3 per cent, over 1930.

Manufacturers of iron and steel, as in the past, constituted the largest class, accounting for 19.8 per cent of the total cargo from the Atlantic to the Pacific, as compared with 22 per cent in 1930, although its actual volume decreased by 808,621 tons, or 38 per cent. The major shrinkage in this item occurred in the United States intercoastal trade, which declined 457,711 tons, or 37.2 per cent; in the trade between the United States and Far East, 129,831 tons, or 54.2 per cent; and in the trade between Europe and South America, 75,947 tons, or 46.6 per cent.

Mineral oils Pacific bound totaled 485,520 tons, a decrease of 197,222 tons, or 28.9 per cent from the preceding year. The most marked decrease in this commodity occurred in shipments of kerosene, which fell off by 122,009 tons, or 41 per cent, principally over the route from the United States to the Far East.

Phosphates declined by 123,069 tons, or 28.2 per cent, in comparison with 1930.

As in previous years, cargo from the Pacific to the Atlantic exceeded greatly the movement in the opposite direction, in 1931 being nearly three times, and in the previous fiscal years over twice, that from the Atlantic. Nevertheless, in comparison with the fiscal year 1930, the Atlantic-bound cargo declined 2,152,136 tons, or 10.5 per cent, and in comparison with 1929 it decreased 2,378,115 tons, or 11.4 per cent, though the decline was relatively much smaller than for the Pacific-bound cargo.

Of the 21 principal items listed in the Pacific-to-Atlantic movement, 14 showed increases and 7 decreases; four of the items aggregating more than 1,000,000 tons registered decreases. Mineral oils (as since 1923) constituted the leading commodity in this direction, though its 4,824,338 tons represented a decrease of 876,249 tons, or 15.4 per cent.

Lumber, with 2,747,485 tons, and ranking second, decreased by 783,394 tons, or 22.2 per cent.

Wheat, which occupied fifth place in 1930, moved to third place in 1931, its increase of 359,112 tons, or 23.9 per cent, enabling it to surpass the shipments of both ores and nitrates. The latter two declined, respectively, by 792,678 tons (35.6 per cent) and by 535,343 tons (28 per cent).

The greater number of increases during the year occurred in various food products such as wheat, sugar, canned goods, food products in cold storage, fresh, and dried fruits, beans, coffee, and the like.

Equipment and Supplies

LOCOMOTIVES

THE LEHIGH VALLEY has placed orders for 20 of the 4-8-4 Wyoming type locomotives. Ten of these are to be built by the American Locomotive Company and 10 by the Baldwin Locomotive Company. Inquiry for this equipment was reported in the *Railway Age* of October 24.

FREIGHT CARS

THE WESTERN FRUIT EXPRESS is inquiring for 300 steel underframes for refrigerator cars.

PASSENGER CARS

THE READING COMPANY is inquiring for 30 multiple-unit motor passenger cars and 20 multiple-unit trailer cars.

IRON & STEEL

THE LOUISVILLE & NASHVILLE has ordered 22,000 tons of 100-lb. rails from the Tennessee Coal, Iron & Railroad Co.

THE PORT OF NEW YORK AUTHORITY.—The Turner Construction Company who received the general contract to build the union inland freight terminal between Eighth and Ninth avenues and Fifteenth and Sixteenth streets, New York, has placed a contract for the necessary structural steel, about 24,000 tons, with the Taylor-Fichter Construction Company, New York.

MISCELLANEOUS

THE PENNSYLVANIA is inquiring for a quantity not to exceed 1,400 tons of tires.

THE ALBANY PORT DISTRICT COMMISSION has placed an order with the Morrison Railway Supply Corp., Buffalo, N. Y., covering the furnishing and installation of materials at the freight terminal and classification yards at Albany, the total cost being $209,201. The layout involves approximately 8½ miles of trackage, including 50 turnouts and 2 crossings. Work is being started immediately and is expected to be completed within four months.

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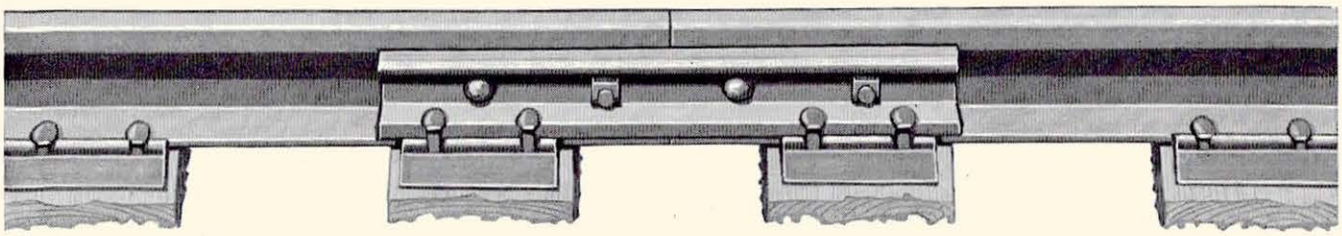


ILLINOIS

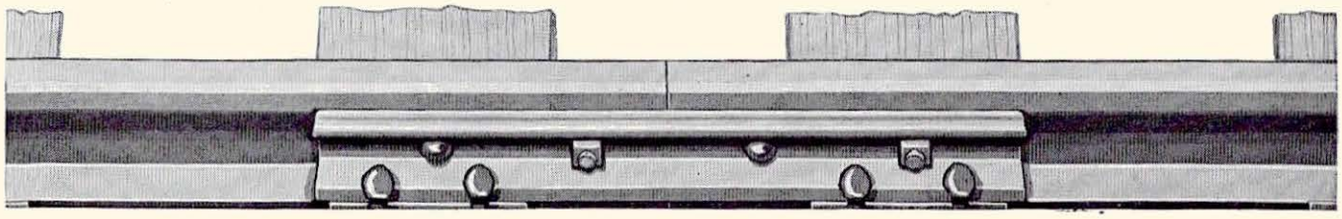
Service based on Years of Experience in Knowing What Railroads Want and How They Want It.

Illinois Steel Company
SUBSIDIARY OF UNITED STATES STEEL CORPORATION
208 South La Salle Street, Chicago, Illinois

U·S STEEL

TRACK MATERIALS

Spikes • Bolts • Angle Bars • Tie Plates



Supply Trade

F. W. Brower has been promoted to manager of rubber wire sales and **H. N. Otis** has been promoted to sales promotion manager of the **Anaconda Wire & Cable Company**, New York.

Clinton S. Dow, member of the firm of Greer, Crane & Webb, New York, has been elected president of the **Ardco Manufacturing Company**, Hoboken, N. J., to succeed **H. Otto Wittpenn**, deceased.

The name of the **Automatic Safety Signal Gate Company** has been changed to the **Automatic Gate & Signal Company, Inc.** The general sales offices remain as formerly, in the Theatre building, Louisville, Ky.

Frank W. Blake, formerly in the railroad machine tool department of **Manning, Maxwell & Moore, Inc.**, and its successor, the **Dean Machinery Company**, has been appointed general sales manager of the **A & E Company**, Chicago.

F. A. Keihn, who has been sales engineer, automotive car division, of the **J. G. Brill Company**, Philadelphia, Pa. since 1924, has been appointed sales engineer of the company and is now in charge of all sales engineering matters. He reports to Charles O. Guernsey, recently appointed chief engineer in charge of all Brill engineering activities.

W. J. Wignall, formerly vice-president of the Locomotive Terminal Improvement Company, has been appointed director of railroad sales for the **A. M. Byers Company**, with headquarters at Pittsburgh, Pa.; **J. H. Ainsworth** is assistant to Mr. Wignall and railroad department representation will be maintained in New York by **C. W. Damberg**, in Chicago by **F. W. Stubbs** and in Pittsburgh by **C. A. Croft**.

Liddle Elected President of Standard to Succeed Joyce

Charles A. Liddle, president of the Pullman Car & Manufacturing Corp., Chicago, has also been elected president of the Standard Steel Car Corporation, a subsidiary of Pullman, Inc., to succeed Patrick H. Joyce, who has been elected chairman of the board of the Standard Steel Car Corporation, as a result of his election as president of the Chicago Great Western, as related in the *Railway Age* of November 7. The selection of Mr. Liddle as president of the Standard Steel Car Corporation follows his completion of 31 years in the car building industry, of which 15 have been with the Haskell & Barker Car Company and its successor, the Pullman Car & Manufacturing Corp. His association with Pullman Car includes the period of the company's greatest development. On June 18, 1924, the Pullman Car & Manufacturing Corp. was incorporated to take over all the property, assets and business of the manufacturing department of the Pullman Company, which had manufactured railway equipment since 1867. The facilities acquired also included the properties of the Haskell & Barker Car Company which the Pullman Company absorbed in 1921. This expansion was extended in January, 1930, when Pullman, Inc., acquired the Standard Steel Car Company, and the Osgood-Bradley Car Company, which it has since operated as a group, the Standard Steel Car Corporation, separately from the properties of the subsidiary, the Pullman Car & Manufacturing Corp. In the same year, the Pullman-Standard Car Export Corporation was organized to take over the Middletown Car Company and to handle the export business of the manufacturing subsidiaries of Pullman, Inc.

Mr. Liddle was born in Philadelphia, Pa., and was educated at the Central Manual Training School, Philadelphia, and Drexel Institute. He entered business as an employee of the Allison Manufacturing Company at Philadelphia, and later served the Jackson & Sharpe Company and the Harlen & Hollingsworth Company at Wilmington, Del., and the Pressed Steel Car Company at Allegheny, Pa. In 1901 he entered the employ of the American Car & Foundry Company as an engineer, later being promoted to assistant to the vice-president and then to general manager. On January 1, 1916, he resigned

Charles A. Liddle

to become vice-president of the Haskell & Barker Car Company, Michigan City, Ind., which position he held until January 14, 1922, when the company was absorbed by the Pullman Company and he was elected vice-persident of the latter company. In 1924 he was made vice-president of the Pullman Car & Manufacturing Corp. and in November, 1928, president of the latter company.

OBITUARY

Dr. Lewis T. Robinson, engineer in charge of the general engineering laboratory of the General Electric Company, Schenectady, N. Y., died at his home in that city on November 3.

Richard T. Crane, Jr., president of the Crane Company, Chicago, died on November 7 in New York after an illness of 10 days. He was born in Chicago, on November 7, 1873, and graduated from the Sheffield Scientific School of Yale University in 1895. In the following year he entered the employ of the Crane Company, which was founded in 1855 by his father, and after a year spent in the foundries, entered the office in the city sales department. In 1898 he was elected second vice-president, which position he held until 1914, when he was elected president, the position he was holding at the time of his death.

Robert H. Ripley, senior vice-president of the American Steel Foundries, Chicago, and chairman of the board of the General Steel Castings Corporation, Eddystone, Pa., who died at Chicago, on November 4, was born at Boston,

Robert H. Ripley

Mass. on June 6, 1876, and after attending Shattuck School, Fairibault, Minn., graduated from Cornell University in 1899. In the latter year he was admitted to the Illinois bar and engaged in the practice of law at Chicago for a year. During 1901 and 1902, Mr Ripley served as a salesman for the Railway Steel Spring Company and he was then connected with the Simplex Railway Appliance Company for the following three years. In 1905, he was elected vice-president of the American Steel Foundries, serving in that capacity and as second vice-president until his election to senior vice-president on March 21, 1929. In April, 1929, he was elected also president of the General Steel Castings Corporation, which position he held until June 6, 1931, when he was elected chairman of the board.

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TIGERWELD PLUG TYPE SIGNAL BONDS

THERE is no substitute for unvarying quality in signal bond construction. And—so—the Northern Pacific—like other leading railroads—depends 100% on Tigerweld Signal Bonds for the efficient operation of its signal equipment. Experience proves that these Bonds—either in the single or duplex type—offer flexibility and low cost—and withstand severe mechanical abuse and have a low resistance that adds greatly to the safety of the track circuit. You are invited to write for further information.

STANDARD *Equipment on the Northern Pacific*

Along the right-of-way of the Northern Pacific. This view shows the application of Tigerweld Signal Bonds

1831 COMMEMORATING 100 YEARS of PROGRESS IN WIRE MAKING 1931

AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago · SUBSIDIARY OF UNITED STATES STEEL CORPORATION · And All Principal Cities

Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco

Export Distributors: United States Steel Products Company, New York

Edward E. Gold, inventor of a car heating system now in use on many railroads in the United States, Canada and Europe, died of a heart attack at his home in New York on October 30, at the age of 84. Mr. Gold was born at Waverly, Ill., and was educated in a private school at Washington, Conn. At the age of 18 he entered the employ of the Scovill Manufacturing Company, New York. In 1882 he invented the system for heating railroad cars with steam from the locomotive by means of a steam hose coupler. Mr. Gold had obtained

Edward E. Gold

more than 100 American and foreign patents. After the railroads began using electricity as motive power, especially on suburban trains, Mr. Gold developed an electric heater for railroad use. Soon after inventing his steam heating system, Mr. Gold organized the Gold Car Heating Company which was reorganized on account of expansion of business in 1903 as the Gold Car Heating & Lighting Company, of which Mr. Gold was president until three years ago when he resigned to become chairman of the board. He maintained an active interest in the business until the time of his death.

TRADE PUBLICATIONS

SILENTVANE FANS.—B. F. Sturtevant Company, Hyde Park, Boston, Mass., has issued a highly informative bulletin of 20 pages dealing with its Silentvane fans for ventilating purposes. In addition to a general description of the fans and a number of illustrations, the bulletin contains design data, performance charts and sample specifications.

TONCAN CULVERT HANDBOOK.—The Toncan Culvert Manufacturers' Association, Massillon, Ohio, has published a booklet bearing this title, which describes the development of Toncan copper molybdenum iron to form a product of greater rust and corrosion-resisting qualities. The handbook, which contains 56 pages, presents a large amount of additional material pertaining to the design, qualities, functions and installation of Toncan culverts.

Construction

CANADIAN NATIONAL.—This company has accepted the bid of R. A. Corbett & Company, St. John, N. B., for foundation walls, basement, and ground floor beams and slabs, stair and partitions, for the new passenger station to be built at St. John.

CANADIAN PACIFIC.—In connection with a proposed unemployment relief program, city authorities of Montreal, Que., are reported to be arranging financial details of a number of projects designed to eliminate grade crossings of city streets and this company's tracks, at an estimated total cost of about $1,790,000.

CENTRAL OF NEW JERSEY.—In connection with grade crossing elimination work at Elizabethport, N. J., described in the *Railway Age* of July 18, this company has let to J. Rich Steers, Inc., Newark, N. J., a contract amounting to $72,500 for the construction of abutments, retaining walls and embankments.

CHESAPEAKE & OHIO.—Contracts for the extension of center sidings at Garrison, Ky., and Stony Point, at costs of $56,700 and $35,600, respectively, have been awarded to Reed & Lapsley, South Charleston, W. Va.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—A contract has been awarded to the Klug & Smith Company, Milwaukee, Wis., for the construction of a reinforced concrete overhead bridge to carry Galena street, Milwaukee, over the tracks of this company, at a cost of about $23,000. This bridge, which is to consist of three 30-ft. spans, is a part of the track depression project that this road is carrying out at Milwaukee.

CHICAGO RIVER & INDIANA.—This road, a unit of the New York Central, has undertaken the development, for industrial purposes, of a tract of land at Chicago comprising about 440 acres. This project, which is to be known as the Crawford Avenue development, is situated on both sides of Crawford avenue and extends from Forty-seventh street north to the old Illinois and Michigan canal. At present that portion of the property adjacent to Forty-seventh street is being improved by the installation of street paving, sidewalks, sewers, power lines and water and gas mains. It is planned ultimately to extend similar improvements to all portions of the property at a total estimated cost of about $2,500,000. The development of this area will require the construction of about 35 miles of trackage, of which about a mile is now under construction.

DELAWARE & HUDSON.—The New York Public Service Commission has approved as not excessive a bid submitted by the Hecker-Moon Company, Cleveland, Ohio, for the elimination of grade crossings of this railroad's tracks at Boardman, Main, Church and Bellamy streets, all in Whitehall, N. Y., and has also approved specifications and an estimate of cost for the elimination of Cooks crossing of the D. & H., located on the Whallonsburg-Essex highway two miles south of Essex station, Essex, N. Y.

ERIE.—A contract has been awarded to Fischer & Hyman, Logansport, Ind., for the construction of a subway to carry Tipton street, Huntington, Ind., under the tracks of this company, at a cost of about $28,900.

ERIE.—In connection with the elimination of grade crossings between its tracks and Main, Washington and Steuben streets, Hornell, N. Y., this road has been authorized by the New York Public Service Commission to employ company forces in the construction, maintenance and removal of falsework necessary to carry the tracks during the construction of a pedestrian subway; in the erection and painting of structural steel; in making changes in its track and signal system; in the removal of existing crossing facilities, and in closing the crossings. The railroad has also been authorized to furnish at actual cost rail and other track material required in connection with the elimination of the various grade crossings in Elmira, N. Y., as reported in the *Railway Age* of April 4.

NEW YORK CENTRAL.—Contracts have been awarded by this railroad to the Lyons-Slattery Co., Inc., New York, for the strengthening of a retaining wall from the north end of 138th street to 141st street, New York, and to James Stewart & Co., Inc., New York, for the construction of a viaduct superstructure between West Eighteenth and West Thirtieth streets, New York. The New York Central has received approval, from the Public Service Commission of New York, of a bid submitted by the Tuller Construction Company, Red Bank, N. J., for the elimination of a grade crossing near Valhalla station, Mount Pleasant, N. Y., and of specifications and estimates of cost for the elimination of the Phelps and Church street crossings, Adams, N. Y.

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.—The St. Louis (Mo.) Board of Public Service has approved a bill appropriating $906,000 for the construction of another western railroad approach to the St. Louis Municipal bridge over the Mississippi river. The approach will extend from a point near the Terminal Railroad Association's yard near Twelfth and Poplar streets to a connection with the railroad deck of the bridge at Seventh and Gratiot streets. Under an agreement with the city the Terminal Railroad Association is to advance funds for the construction of this approach and will be reimbursed from tolls received for the use of the bridge. The appropriation has also been approved by the Public Utilities committee of the St. Louis Board of Aldermen.

WESTERN MARYLAND.—This road has awarded to the M. A. Long Company, Baltimore, Md., a contract for the construction of a covered automobile unloading platform at Fulton station, Baltimore.

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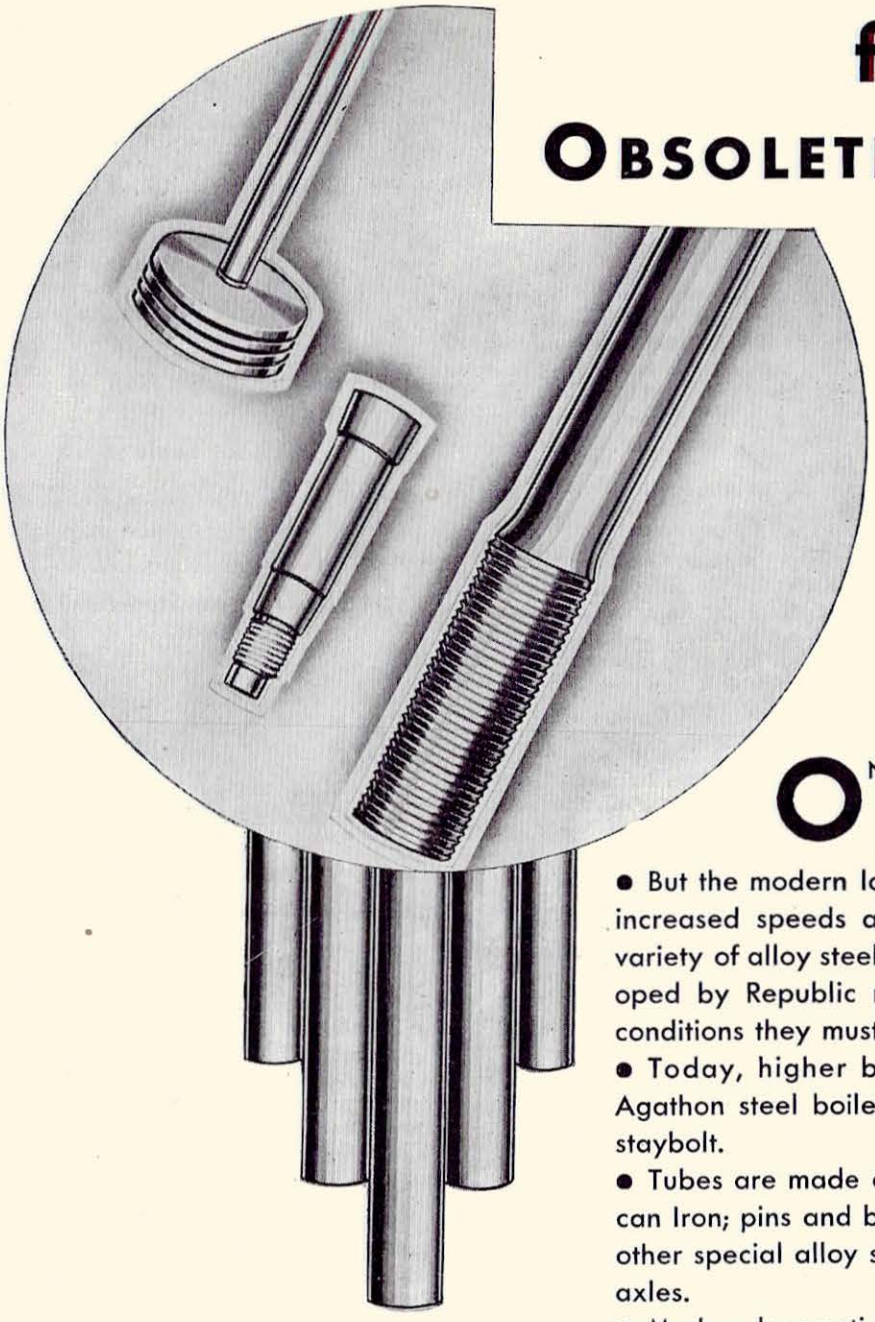
Don't build a MODERN Locomotive from OBSOLETE MATERIALS



ONLY A few years ago, locomotive materials were confined to plain carbon steel, wrought and cast iron.

● But the modern locomotive, with its higher pressures, increased speeds and greater loads, now has a wide variety of alloy steels to draw upon, many of them developed by Republic metallurgists for the specific set of conditions they must meet.

● Today, higher boiler pressures have brought the Agathon steel boiler shell and the Agathon Alloy steel staybolt.

● Tubes are made of seamless, corrosion-resisting Toncan Iron; pins and bushings of Agathon Nickel Iron; still other special alloy steels go into rods, motion work and axles.

● Modern locomotives have their counterpart in modern materials. You wouldn't build a locomotive that is obsolete in design. Don't build one of obsolete materials. Consult with Republic metallurgists on the steels that best suit each condition of railroad service.

AGATHON STEELS
TRADE MARK

CENTRAL ALLOY DIVISION
REPUBLIC STEEL
CORPORATION
Massillon, Ohio

Financial

ATCHISON, TOPEKA & SANTA FE.—*Abandonment of Operation.*—The Interstate Commerce Commission has authorized the Gulf, Colorado & Santa Fe to abandon operation under trackage rights over its McGregor-Waco branch, which is owned by the St. Louis Southwestern of Texas and which is 21.8 miles in length.

BONLEE & WESTERN.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Bonlee, N. C., to Bennett, 10.37 miles.

CHICAGO & NORTH WESTERN.—*Equipment Trust.*—This company has applied to the Interstate Commerce Commission for authority for an issue of $195,000 of 4½ per cent equipment trust certificates.

CHICAGO GREAT WESTERN.—*Abandonment.*—Examiner O. D. Weed in a proposed report to the Interstate Commerce Commission has recommended that the commission authorize the abandonment by the Mason City & Fort Dodge and the abandonment of operation by the C. G. W., of the line from a point near Fort Dodge, Ia., to Lehigh, 12.14 miles.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—*Bonds.*—The Interstate Commerce Commission has authorized this company to issue $1,442,000 of first and general mortgage 6 per cent, series B, bonds in exchange for and upon cancellation of a like amount of first and general mortgage 5 per cent, series A, bonds. The issue is to be pledged and repledged from time to time as collateral security for short term notes.

CHICAGO, ROCK ISLAND & PACIFIC.—*I.C.C. to Investigate Stock Purchases.*—The Interstate Commerce Commission has ordered a proceeding of inquiry and investigation for the purpose of ascertaining additional information as to certain features of the acquisition by the Rock Island during the period October to December, 1930, of 25,000 shares of the common stock of the St. Louis-San Francisco, and the acquisition by the Frisco, as ratified by its board of directors on December 10, 1930, of 25,000 shares of the common stock of the Gulf, Mobile & Northern, at prices considerably above the market prices at the time the purchases were recorded. The annual report of the Rock Island shows the purchase of 25,000 shares, at various dates, at a cost of $1,747,664. The commission's consolidation plan places the Rock Island and the Frisco in a system, No. 19, while the G. M. & N. is placed in System No. 8—Atlantic Coast Line. In 1926 the commission authorized three directors of the Frisco, E. N. Brown, J. M. Kurn and Jesse Hirschman, to be directors of the Rock Island, after the Frisco had acquired 183,333 1/3 shares, or about 14 per cent, of the stock of the Rock Island, and it was at that time stated by the applicants that authority for the unification of the properties of the two companies in some form would be sought eventually. Earlier this year Mr. Brown, who is chairman of the executive committee of the Rock Island and chairman of the board of the Frisco, applied for authority to serve also as a director of the G. M. & N., but that application was withdrawn after he had received a letter from O. E. Sweet, director of the commission's Bureau of Finance, expressing the opinion that the commission would not approve the application on the ground of competition between the Frisco and the G. M. & N., on traffic to Mobile. It has, however, authorized Burlington officers to serve as directors of the G. M. & N.

ELKIN & ALLEGHANY.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon as to interstate and foreign commerce its entire line extending from a connection with the Southern at Elkin, N. C., northwesterly to Veneer, 15.2 miles.

FLORIDA EAST COAST.—*Receivers' Certificates.*—This road has been granted authority by the Interstate Commerce Commission to issue not exceeding $550,000 of receivers' certificates, series A, to be sold at not less than par and accrued interest, the proceeds to be used for additions and betterments, for interest on certain bonds and equipment trust certificates and for operating expenses.

GREENWICH & JOHNSONVILLE.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Johnsonville, N. Y., to Greenwich, 14 miles.

MINNEAPOLIS & ST. LOUIS.—*Receivers' Certificates.*—The Interstate Commerce Commission has granted authority to this road to issue $750,000 of receivers' certificates to renew or extend certificates in like amount which will mature during the remainder of this year and in February, 1932.

MISSOURI PACIFIC.—*Unification Case.*—The Interstate Commerce Commission has denied a petition filed by the Fort Smith & Western for an order requiring the Missouri Pacific to make a bona fide offer to acquire its property at a fair and reasonable price.

MISSOURI PACIFIC.—*Bonds.*—The Interstate Commerce Commission has authorized the Philadelphia, Baltimore & Washington to issue $5,000,000 of general mortgage 4½ per cent, series D, bonds to be delivered to the Pennsylvania in exchange for a like amount of its 6 per cent general mortgage, series A, bonds. The parent company is authorized to assume obligation and liability as guarantor for the issue.

PIGEON RIVER.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon as to interstate and foreign commerce its entire line of road extending from West Canton, N. C., to Sunburst, 11.9 miles.

RICHMOND BELT.—*Acquisition.*—The Southern Pacific and the Atchison, Topeka & Santa Fe have applied to the Interstate Commerce Commission for authority to acquire control of this company's property, including a line of 6.3 miles in Contra Costa county, Cal.

SEABOARD AIR LINE.—*Abandonment.*—Examiner T. F. Sullivan of the Interstate Commerce Commission has recommended in a proposed report that the commission authorize the abandonment of the line from Lawrenceville to Loganville, Ga., 9.74 miles.

YOUNGSTOWN & SUBURBAN.—*Trackage Right Denied.*—The Interstate Commerce Commission has denied the application of this company for authority to operate under trackage rights over the Pennsylvania to a connection with the New York Central in Youngstown, Ohio. The Commission held that the applicant is an interurban electric line and not within the jurisdiction of the Commission.

Dividends Declared

Canadian Pacific.—Common, 31¼c, quarterly, payable December 31 to holders of record December 1.

Chicago, South Shore & South Bend.—Class A Preferred, $1.62½, quarterly, payable December 1 to holders of record November 14.

Average Prices of Stocks and of Bonds

	Nov. 10	Last week	Last year
Average price of 20 representative railway stocks..	49.14	45.84	89.37
Average price of 20 representative railway bonds..	78.56	76.38	93.57

Railway Officers

EXECUTIVE

J. S. Pyeatt, president of the Denver & Rio Grande Western, has been elected president of the Salt Lake City (Utah) Union Depot & Railroad Co., for the ensuing year, succeeding **H. M. Adams,** president of the Western Pacific, who has been elected vice-president of the Depot Company. This company is owned jointly by the Western Pacific and the Denver & Rio Grande Western. Last year Mr. Adams served as president and Mr. Pyeatt as vice-president.

C. C. Cameron, general traffic manager of the Illinois Central, has been elected vice-president, traffic, with headquarters as before at Chicago, succeeding **D. W. Longstreet,** who has retired, having reached the age of 70 years. The position of general traffic manager has been abolished. **F. H. Law,** assistant traffic manager, which position is also discontinued, has been appointed to the newly-created position of assistant to vice-president, traffic, with headquarters as before at Chicago. **W. L. Reeves,** assistant general freight agent, has been appointed to the newly-created position of assistant to freight traffic manager, with headquarters at Chicago, as before. These changes become effective December 1.

Edward T. Whiter, vice-president of the Pennsylvania, with headquarters at Pittsburgh, Pa., retired on November 1,

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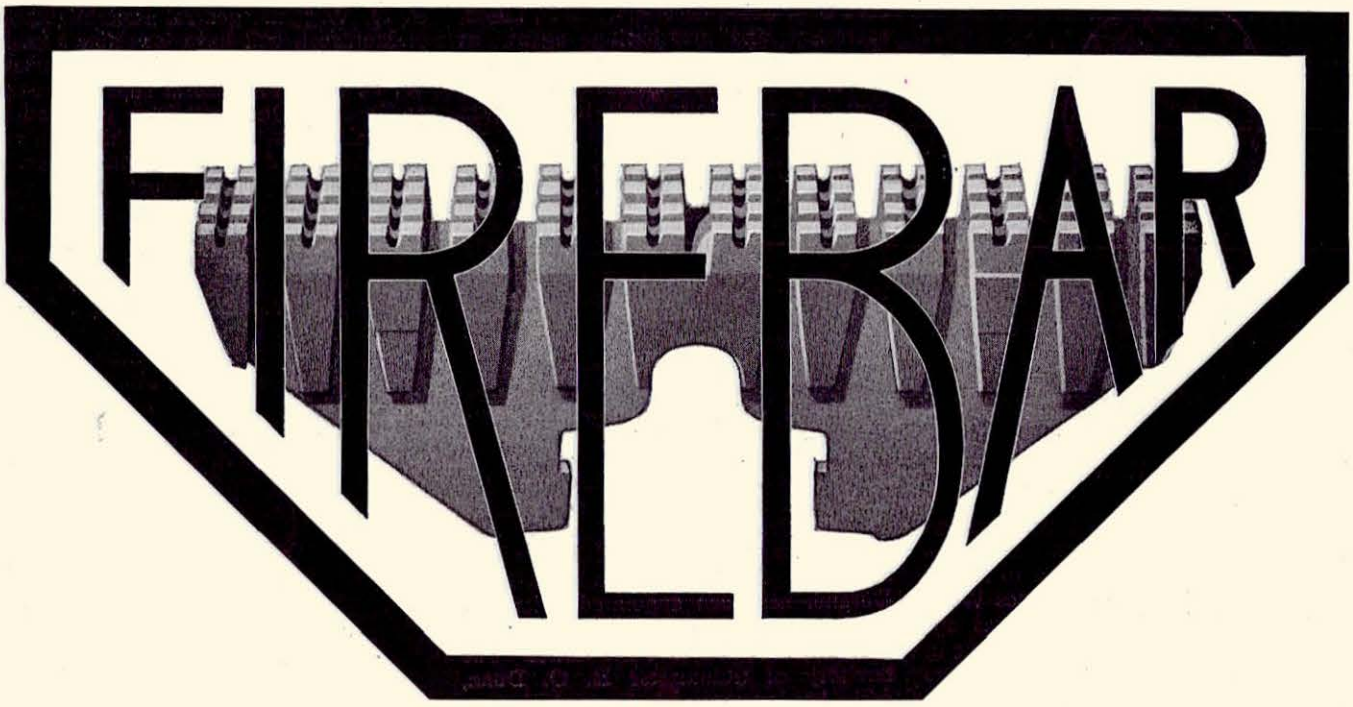

BETTER FIRES

FIREBAR CORPORATION
CLEVELAND OHIO.

after nearly 51 years of continuous railroad service. Mr. Whiter was born on March 26, 1864, at Steubenville, Ohio, and, after a public school education, entered the service of the Pennsylvania in 1881, as a telegraph operator. For the next 32 years Mr. Whiter served in this capacity and as train dispatcher, assistant trainmaster, trainmaster and division superintendent, holding the latter position from 1903 to 1912. In 1913, he

Edward T. Whiter

was promoted to general superintendent of the Northwest system, and two years later he was further advanced to assistant general manager of the Lines West. In March, 1920, Mr. Whiter was appointed assistant to the vice-president in charge of personnel, with headquarters at Philadelphia, Pa., being further advanced to vice-president in charge of the Northwestern region, with headquarters at Chicago, in 1923. A year later he was transferred to Pittsburgh as vice-president of the Central region, which position he retained until July, 1928, when he was appointed to a newly-created position at Pittsburgh in which, with the title of vice-president, he was in charge of the extensive improvements planned for the Pittsburgh terminal. He was holding this position at the time of his retirement, which was effective November 1.

FINANCIAL, LEGAL AND ACCOUNTING

C. W. Wright, general attorney of the Minneapolis & St. Louis, has been appointed to the newly-created position of general solicitor, with headquarters as before at Minneapolis, Minn. **G. M. Swanstrom** has been appointed general attorney, to succeed Mr. Wright.

OPERATING

B. C. Murphy has been appointed trainmaster of the Missouri Pacific, with jurisdiction over the Paragould district, between Knobel and Lexa, excluding Lexa yard, Latour and Marianna districts, Memphis division, with headquarters at Wynne, Ark., succeeding **G. R. Mabie.**

P. T. White, general superintendent of the Cleveland, Cincinnati, Chicago & St. Louis, with headquarters at Indianapolis, Ind., has been appointed to the newly-created position of assistant general manager, with headquarters at Cincinnati, Ohio. The position of general superintendent has been abolished.

G. Johnson, traffic manager of the Manistee & Northeastern, with headquarters at Manistee, Mich., has been appointed also general manager, to succeed **S. J. Scott,** deceased. **E. F. Olsen,** secretary and purchasing agent, at Manistee, has had his title changed to secretary and superintendent, the position of purchasing agent having been abolished.

G. A. Handlon, general superintendent of the Litchfield & Madison, has been promoted to general manager, with headquarters as before at Edwardsville, Ill., and the position of general superintendent has been discontinued. In his new position, Mr. Handlon will take over some of the duties of **S. D. Wheeler,** vice-president, general manager and general auditor, who has relinquished the duties of general manager.

The position of trainmaster of the Holly and Mount Clemens subdivisions of the Grand Trunk Western, with headquarters at Durand, Mich., has been abolished. **H. A. Tait,** trainmaster at Durand, has been appointed chief dispatcher at that point, succeeding **C. I. McNutt,** assigned to other duties. The territory of trainmaster **E. O. Dunn,** with headquarters at Durand, is extended to include the line Durand to Pontiac, and the territory of trainmaster **G. A. Briggs,** with headquarters at Pontiac, Mich., extended to include line Pontiac to Detroit and Detroit to Port Huron, but does not include Detroit and Port Huron terminals.

TRAFFIC

George H. Lohmeyer has been appointed general agent for the Teminal Railroad Association of St. Louis, at Detroit, Mich.

N. L. Rankin, general agent for the Texas & Pacific at Dallas, Tex., has been promoted to assistant general freight agent at the same point, a newly-created position.

R. E. Dirhold has been appointed general agent for the Chicago, Indianapolis & Louisville, with headquarters at Tulsa, Okla., succeeding **S. B. Meyers,** deceased.

J. W. White, assistant to the executive vice-president of the Missouri-Kansas-Texas of Texas, with headquarters at Dallas, Tex., has been appointed assistant passenger traffic manager of the M-K-T Lines, with headquarters at St. Louis, Mo. Prior to his appointment as assistant to the executive vice-president on May 1, 1931, Mr. White had been passenger traffic manager of the Katy, but on account of ill health, he has been relieved of active duties during the past several months. The position of assistant passenger traffic manager is a newly-created one.

H. E. Hislop, chief clerk in the general manager's office of the Canadian National, has been appointed traffic manager, with jurisdiction over all tariff and classification matters, succeeding **W. C. Webb,** deceased. His headquarters will be located at Montreal, Que. **F. N. Wiggins,** general superintendent at Montreal, will have jurisdiction over all claim matters in the eastern district; **W. E. Norman,** general superintendent at Toronto, Ont., will have jurisdiction over all claim matters in the central district; **C. A. Cunningham,** general superintendent at Winnipeg, Man., will have jurisdiction over all claim matters in the western district.

Mr. Hislop is a native of Smith's Falls, Ont., and has been associated with the C. N. R. since 1913. For a year he worked as axeman on the construction of the line near Smith's Falls, and, in 1914, joined the express depart-

H. E. Hislop

ment as clerk in the office at that point. Four years later he was transferred to Ottawa, Ont., as chief clerk. In 1919, he became claim clerk in the superintendent's department at Toronto, and, in 1922, he was transferred in the same capacity to the general superintendent's office at Moncton, N. B. A year later he moved to Montreal, and on February 1 of this year he was appointed chief clerk in the general manager's office, which position he held until his recent promotion.

ENGINEERING AND SIGNALING

B. A. West, assistant superintendent of the New Mexico division of the Atchison, Topeka & Santa Fe, with headquarters at Albuquerque, N. M., has been appointed general inspector of track, with jurisdiction over the Western Lines and the Panhandle & Santa Fe, with the same headquarters. The position of assistant superintendent of

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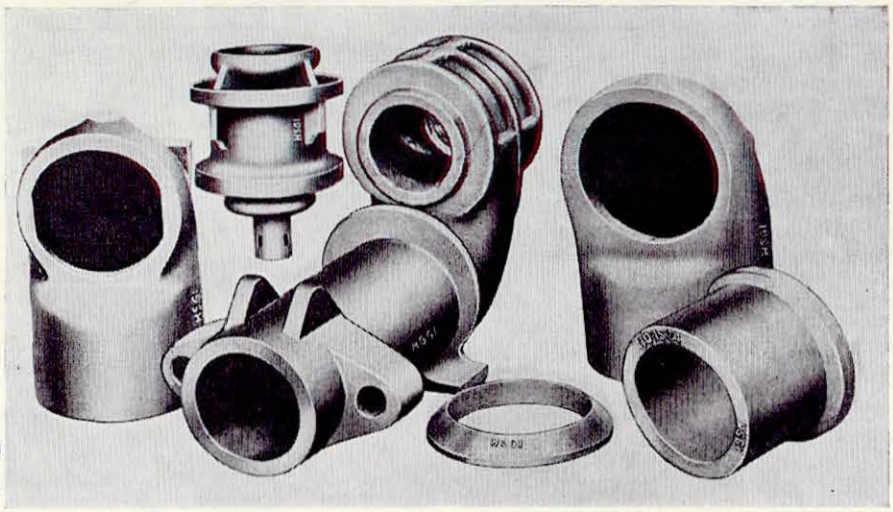

Where leaks are dangerous and expensive

THE efficiency of a locomotive is materially affected by leaks in the dry pipes. The wetter the steam from the dry pipes, the lower the superheat temperatures.

Practically all failures develop in the castings fitted to the dry pipe. Materials, of course, are an important factor.

To solve these problems and reduce expensive repairs, many railroads are now applying HUNT-SPILLER *Air Furnace* GUN IRON dry pipe sleeves, elbows, stand pipes and throttle boxes.

Their uniformity insures freedom from those foundry defects which are the cause of dangerous leaks. High temperatures have no effect on this material. The savings in maintenance costs pay a big return on the investment.

Why Not Investigate?

HUNT-SPILLER MFG. CORPORATION

J. G. Platt, Pres. & Gen. Mgr. — V. W. Ellet, Vice-President

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Export Agent for Latin America:
International Rwy. Supply Co., 30 Church Street, New York, N. Y.

HSGI
Reg. U. S. Trade Mark

Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings

Parts Finished for Application

Dunbar Sectional Type Packing
Duplex Sectional Type Packing
(Duplex Springs for Above Sectional Packing)
Cylinder Snap Rings
Valve Rings All Shapes

HUNT-SPILLER GUN IRON

Air Furnace

the New Mexico division has been abolished.

R. O. Rote, chief engineer, **H. B. Reinsagen,** assistant chief engineer, and **H. W. Fenno,** engineer maintenance of way, of the New York Central, Lines West of Buffalo, with headquarters at Cleveland, Ohio, have had their jurisdiction extended to include the Ohio Central Lines. **J. A. Stocker,** chief engineer of the Ohio Central Lines, with headquarters at Columbus, Ohio, has been appointed engineer of construction of the Lines West of Buffalo and of the Ohio Central Lines, with headquarters at Cleveland.

G. H. Harris, who has been appointed chief engineer of the Michigan Central, has been associated with the engineering department of this road for 28 years. He was born at Toledo, Ohio, on July 17, 1878, and received his engineering education at the University of Michigan. He entered railway service in 1901 on the construction of the Detroit & Toledo Shore Line, and in 1902 he became an assistant on the engineering corps of the Pennsylvania, at Chicago. A year later Mr. Harris joined the engineering organization of the Michigan Central as an assistant engineer and has remained with this road continuously until the present. In 1905, he was promoted to division engineer, with headquarters at Niles, Mich., but was reappointed assistant engineer, with headquarters at

G. H. Harris

Detroit, a year later. From 1907 to 1910, he was assistant engineer in charge of the grade separation project of the Michigan Central and the Chicago, Rock Island & Pacific at Joliet, Ill., being on the latter date promoted to division engineer on the M. C. at St. Thomas, Ont. Two years later Mr. Harris was transferred to Detroit and in 1913 he was appointed engineer of track, which position he held for three years before being advanced to engineer maintenance of way. During the period between 1917 and 1919 he was acting assistant chief engineer, being in the latter year appointed special engineer. He served as engineer maintenance of way in 1920-21, and was promoted to assistant chief engineer in the latter year, which position he held until his promotion to chief engineer, at Detroit, effective November 1.

J. F. Deimling, whose retirement as chief engineer of the Michigan Central was announced in the *Railway Age* for November 7, has had a varied railway engineering career, which dates back about 45 years. He was born on November 18, 1867, and first entered railway service in March, 1886, as a rodman on the Missouri Pacific. In September of the same year he left this road to become

J. F. Deimling

an assistant engineer with the W. V. McCracken Construction Company, but returned to railway service a year later as an assistant engineer on the Chicago & West Michigan (now part of the Pere Marquette). In March, 1890, he was appointed also to the same position on the Detroit & Lansing (now also part of the Pere Marquette), holding these positions until March, 1897, when he was appointed engineer maintenance of way of the Lake Superior & Ishpeming. He served in this position and as chief engineer of the Marquette & Southern until June, 1904, when he was made track engineer of the Pere Marquette. A year later he was appointed division engineer maintenance of way of the same road at Grand Rapids, Mich., which position he held until February, 1906, when he was promoted to chief engineer of the Pere Marquette with headquarters at Detroit, Mich. After serving in this position for more than six years he went with the Michigan Central as engineer of construction, and in December, 1913, he was promoted to assistant chief engineer. About four years later, Mr. Deimling was appointed acting chief engineer and from May, 1919, to November, 1921, he was assistant chief engineer, being advanced to chief engineer on the latter date. He held this position continuously until his retirement, which was effective on November 1.

MECHANICAL

J. W. Senger, superintendent of rolling stock of the New York Central, Lines West of Buffalo, with headquarters at Cleveland, Ohio, has had his jurisdiction extended to include the Ohio Central Lines.

The jurisdiction of **E. F. Stroeh,** master mechanic of the Missouri Pacific, with headquarters at Poplar Bluffs, Mo., has been changed to include the Missouri division of the Missouri Pacific and that part of the Missouri Illinois (unit of the Missouri Pacific) west of the Mississippi river, with headquarters at the same point.

G. T. Callander, master mechanic of the Central Kansas and Wichita divisions of the Missouri Pacific, with headquarters at Osawatomie, Kan., has had his jurisdiction extended to include the Colorado division, succeeding **W. C. Smith,** master mechanic at Hoisington, Kan., who has been transferred to Dupo, Ill., with jurisdiction over the Dupo terminals of the St. Louis Terminal division and the Illinois division, including the Missouri-Illinois, east of the Mississippi river. **Rickard Kling** has been appointed assistant master mechanic of the Central Kansas, Colorado and Wichita divisions, with headquarters at Wichita, Kan.

PURCHASES AND STORES

Effective November 1, the jurisdiction of **C. C. Warne,** purchasing agent of the New York Central, at New York, was extended over the Michigan Central and the Cleveland, Cincinnati, Chicago & St. Louis. **B. A. Aikens,** purchasing agent of the Michigan Central, has been appointed local purchasing agent at Detroit, Mich., and **Harry Carter** has been appointed to a similar position at Cincinnati, Ohio.

MOTOR TRANSPORT

M. C. Frailey has been appointed assistant auditor of the Pacific Greyhound Corporation, Pacific Greyhound Lines, Inc., and California Parlor Car Tours Company, with supervision over accounts and personnel of accounting department, with headquarters at San Francisco, Cal.

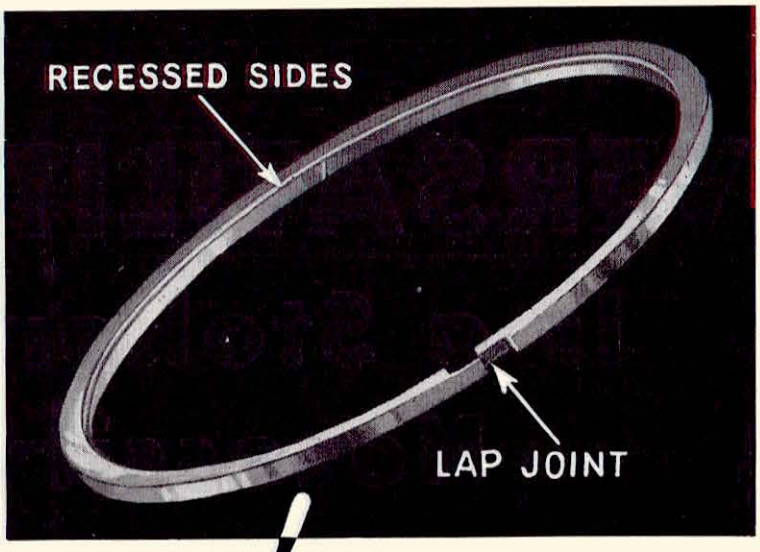
SPECIAL

Dr. Arthur C. Strachauer has been appointed chief surgeon of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Minneapolis, Minn., to succeed **Dr. J. H. Rishmiller,** who has retired.

OBITUARY

P. T. Dunlop, retired superintendent of motive power of the St. Louis-San Francisco, died at his home at Willard, Mo., on October 4.

C. D. Hammond, formerly associated with the Delaware & Hudson, died at St. Petersburg, Fla., on November 5. Mr. Hammond was born on March 1, 1844. He entered service with the D. & H. as a train dispatcher in 1873, and two years later was advanced to superintendent of the Susquehanna division, which position he held until November 1, 1885, when he was appointed superintendent of the Northern Railroad department. When that position was abolished, December 1, 1903, he became general agent of the transportation department, in which capacity he served until his retirement on June 1, 1904.



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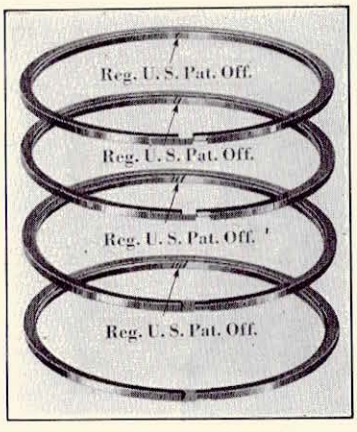

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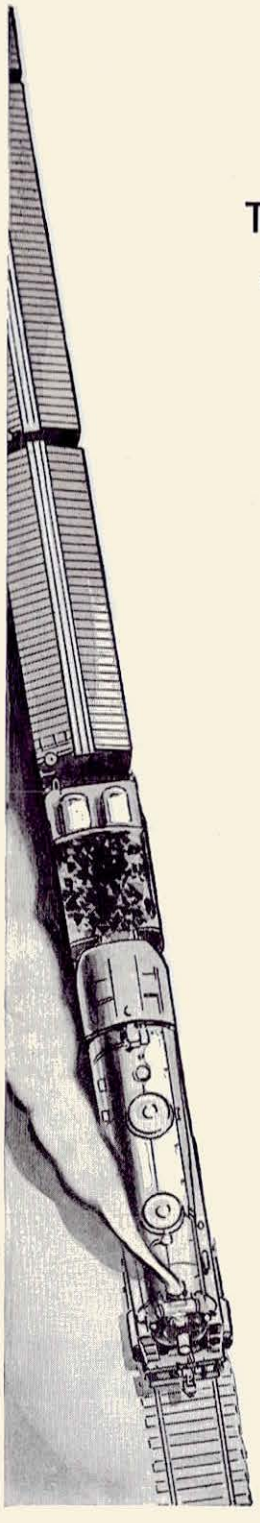
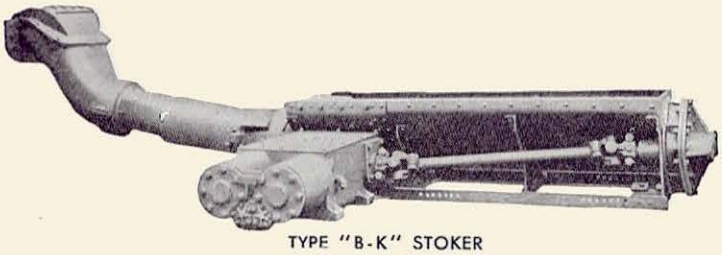


THINK of the conditions the locomotive Stoker must meet. • It must fire varying grades of fuel from different mines,—run of mine to slack, bone dry to soaking wet. • It must contend with "tramp iron" and other foreign matter in the fuel. • It must be flexible to fire economically the locomotive hauling a light load, yet have ample capacity to meet the requirements of full tonnage under adverse operating conditions. • It must be absolutely dependable over the longest runs and under all conditions. • Standard Stokers are firing locomotives of all sizes in every class of service with uniformly remarkable records of economy and dependability.



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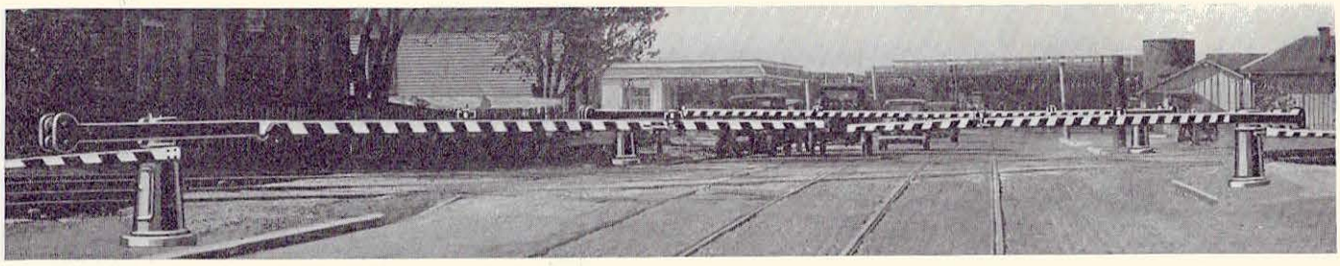

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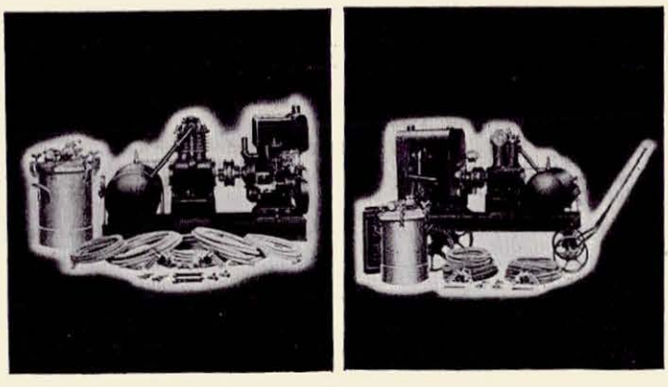

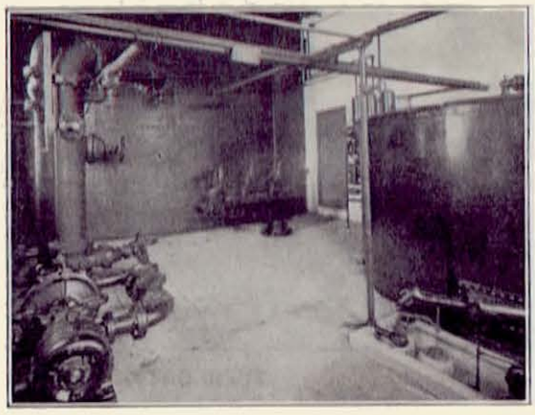

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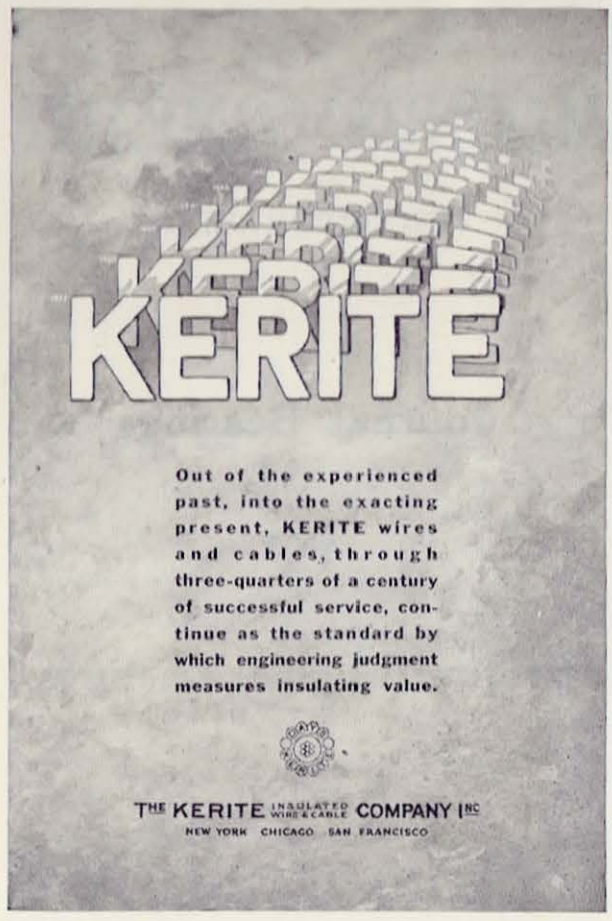
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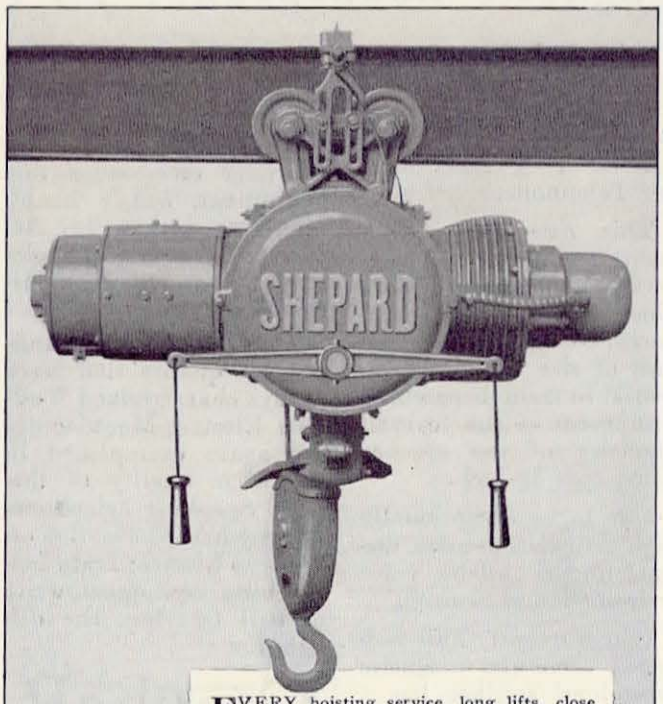

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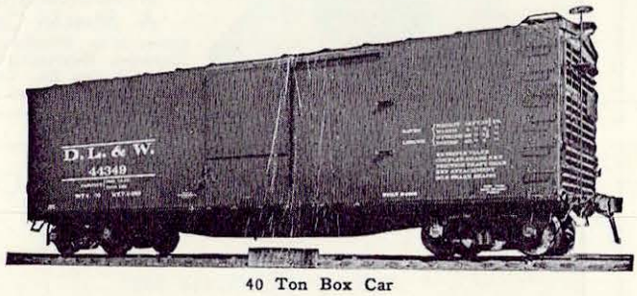

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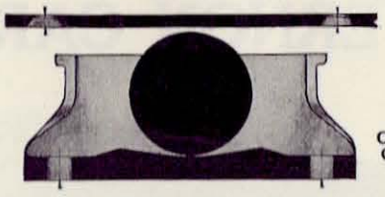
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Index to Advertisers

A

Allegheny Steel Co. 46
American Arch Co., Inc., The .. 32
American Brake Shoe & Foundry Co. 23
American Creosoting Co. 12
American Locomotive Co. 33
American Steel Foundries ..... Front Cover
American Steel & Wire Co. .. 35
Ames-Baldwin-Wyoming Shovel Co. 19, 20
Armco Railroad Sales Co. 13
Ashton Valve Co. 46
Automatic Gate and Signal Co. 41

B

Baldwin Locomotive Works, The 9
Battey & Kipp, Inc. 47
Bethlehem Steel Co. 8
Bettendorf Co., The 50
Bird-Archer Co., The 44
Birdsboro Steel Foundry & Machine Co. 49
Bixby, Inc., R. W. 47
Buffalo Brake Beam Co. 46
Byers Co., A. M. 15

C

Camel Co. 45
Cardwell-Westinghouse Co. 10
Chase & Co. L. C. 16
Chicago Railway Equipment Co. 14
Classified Advertisements 47

D

Dardelet Threadlock Corp. 25
DeVilbiss Co. 42

F

Falls Hollow Staybolt Co. 46
Firebar Corporation 37
Fort Pitt Malleable Iron Co. .. 44
Franklin Railway Supply Co., Inc. 29

G

General American Tank Car Corp. 22
Get Together Department 47
Graver Tank & Mfg. Corp. 42
Graybar Electric Co. 43
Gulick-Henderson Co. 47

H

Harbison-Walker Refractories Co. 32
Hunt Co., Robert W. 47
Hunt-Spiller Mfg. Corp. 38
Hutchins Car Roofing Co. 28
Hyman-Michaels Co. 47

I

Illinois Steel Co. 34
Industrial Brownhoist Corp. .. 4
Iron & Steel Products, Inc. 47

K

Kerite Insulated Wire & Cable Co., The 44

L

Lima Locomotive Works, Inc. 30, 31
Logan Iron & Steel Co. 46

M

Magnus Co. 43
McConway & Torley Inc. 43
Miner Inc., W. H. 3
Mt. Vernon Car Co. 45
Muhlfeld, John E. 47

N

Nichols & Bro., Geo. P. 46

O

Ohio Locomotive Crane Co. 45
Oxweld Railroad Service 27

P

Permutit Co., The 11
P. & M. Co., The 46
Pittsburgh Testing Laboratory 47
Professional Directory 47

R

Rail Joint Co. 21
Railway Educational Bureau, The 47
Republic Steel Corp. 36

S

Shepard Niles Crane & Hoist Corp. 44
Simmons-Boardman Pub. Co. .. 41
S. K. F. Industries, Inc. 26
Standard Car Truck Co. 45
Standard Steel Works Co. 17
Standard Stoker Co. 40
Stucki Co., A. 46

T

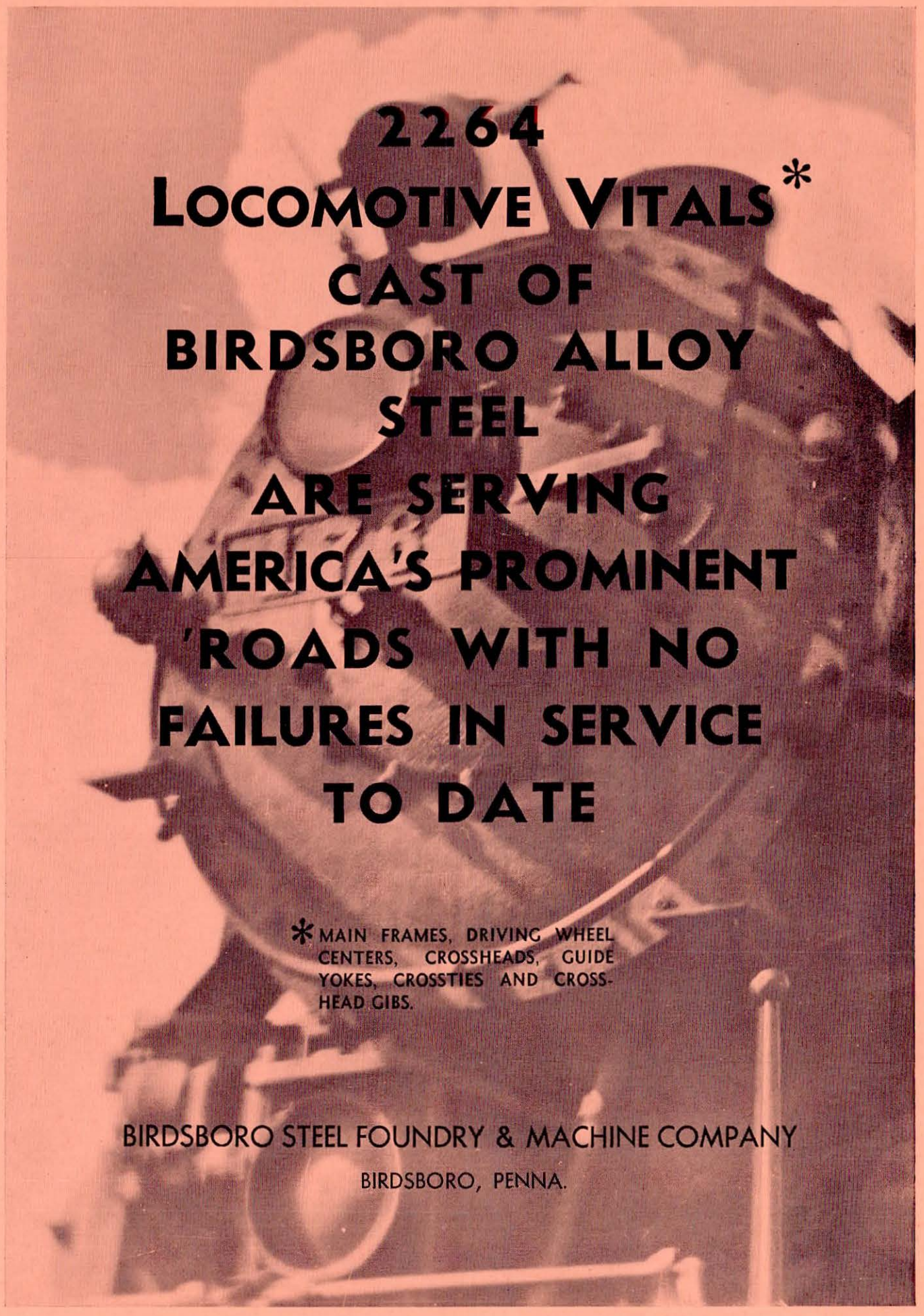
Timken Roller Bearing Co., The 2
Tuco Products Corp. 46

U

Union Asbestos & Rubber Co. .. 46
Union Metal Products Co. 18
Union Spring & Mfg. Co. 46
Union Steel Casting Co. 46
Union Switch & Signal Co. 6, 7

W

Western Electric Co. 24
Western Wheeled Scraper Co. 46
Westinghouse Air Brake Co. .. 39
Wine Railway Appliance Co., The 46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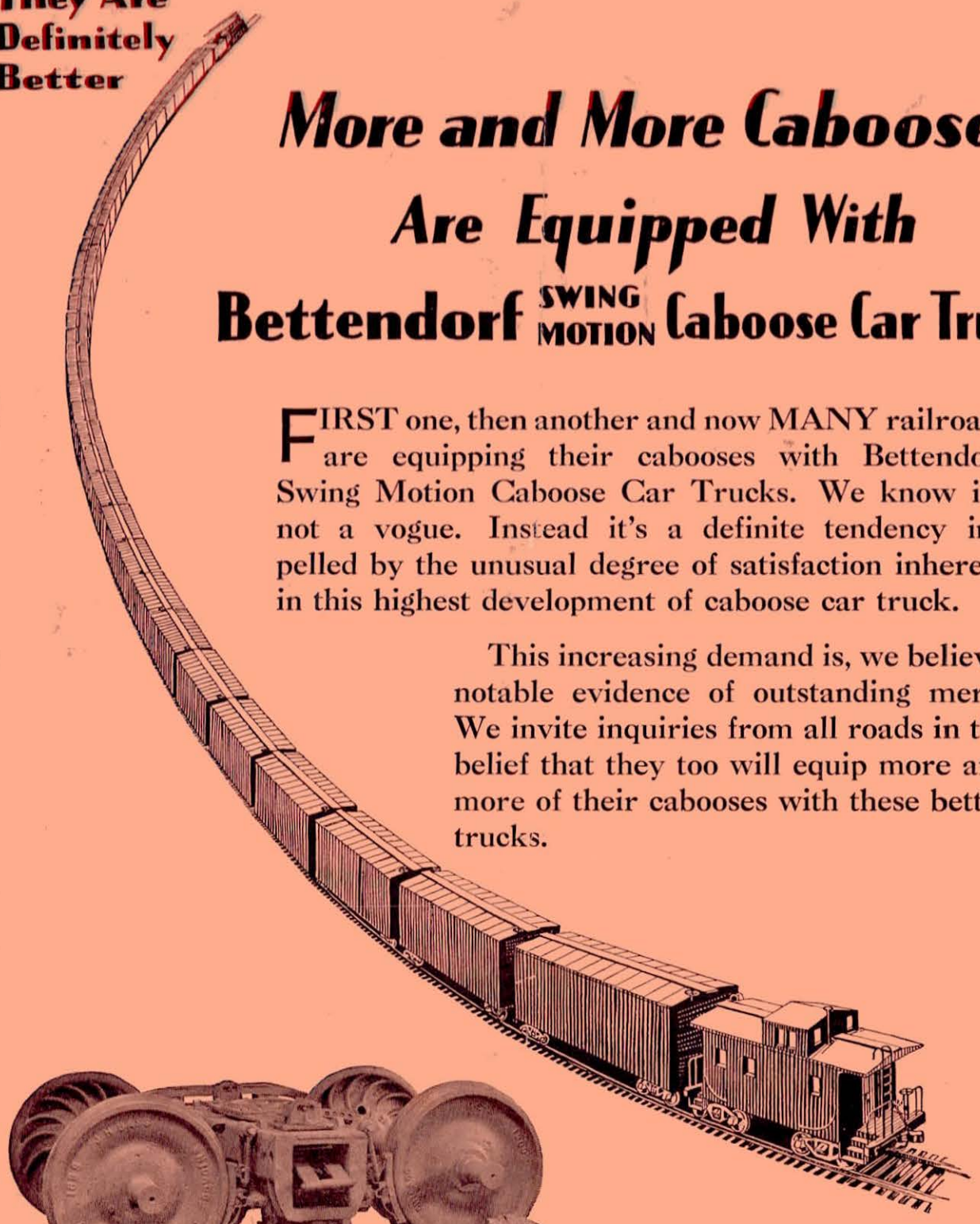

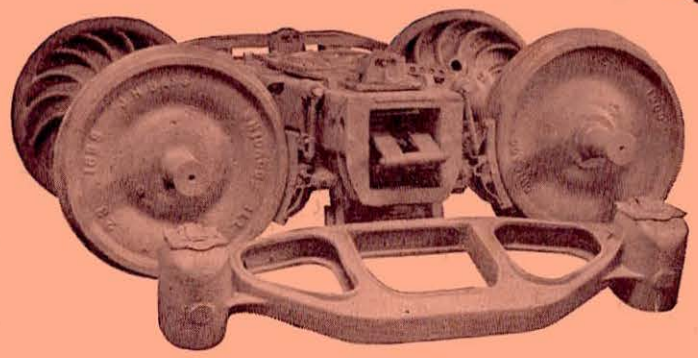

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